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Activity Safety Guideline

Coasteering

June 2016 Version 1.2

SupportAdventure.co.nz

SAFETY SYSTEMS DRIVEN BY SAFETY CULTURE

Preface

This Coasteering Activity Safety Guideline is published by Tourism Industry Aotearoa (TIA) with support from WorkSafe New Zealand. The guideline was developed in association with experts from the coasteering sector and other relevant technical experts. Information about the guideline development process can be found at www.supportadventure.co.nz/activity-specific-good-practice-information/activity-safety-guidelines

The guideline is a web-based document and will be reviewed and updated as required. The current version is available at www.supportadventure.co.nz/activity-specific-good-practice-information/activity-safety-guidelines Users should periodically check the date and version number of the current online document to ensure that their printed copies are up to date.

Activity safety guidelines are the result of a recommendation from the final report of the 2009/10 government review of risk management and safety in the adventure and outdoor commercial sector in New Zealand. The variety of activities provided by these sectors is referred to broadly as adventure activities, and include activities provided by adventure tourism operators and outdoor education centres. More information about the government review can be found at www.supportadventure.co.nz/about-site-and-government-safety-review

TIA, WorkSafe New Zealand, and the coasteering sector have made every effort to ensure that the information contained in this guideline is reliable. We make no guarantee of its accuracy or completeness and do not accept any liability for any errors. We may change, add to, delete from, or otherwise amend the contents of this publication at any time without notice.

Development was managed by TIA – www.tia.org.nz – with the support of WorkSafe New Zealand – www.business.govt.nz/worksafe

Document control

Version 1.2

Changes from version 1.1	**Where**
Updated the health and safety regulator's name	Throughout document
Revised references to the health and safety legislation	Throughout document
Revised the technical expert definition	Definitions
Changed the age that operators commonly require guardian consent to under 18 years	Section 7.1

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Other publications

This guidance contains adventure tourism and outdoor commercial sector information published on the SupportAdventure website www.supportadventure.co.nz

This guidance contains public sector information published by WorkSafe New Zealand, which is subject to Crown copyright (2010).

This guideline referenced the National Water Safety Forum Base Level Skills and Competences for Coasteering Guides.

Consultation

The guideline was developed in consultation with the commercial guiding and instructing coasteering sector and other relevant experts. The following people comprised the coasteering activity safety guideline working group and are acknowledged for their support and advice on technical content:

- Simon Graney
- Dave Goldsworthy
- Jason Holland
- Mark Jones
- Pete Ozich.

The following groups are also acknowledged for their input and support for this particular guideline or for the overall activity safety guideline project:

Coasteering Activity Safety Guideline support group; New Zealand Mountain Safety Council; New Zealand Outdoor Instructors Association; Outdoors New Zealand; Outdoor Safety Auditors; ServiceIQ Industry Training Organisation; Surf Life Saving New Zealand, Tourism Industry Aotearoa; Water Safety New Zealand.

Contents

Definitions

This guideline assumes the reader has technical knowledge of this activity; it defines only those terms that may be unique to this guideline, are used in a specific way or that would otherwise be open to interpretation.

For the purposes of this document, the following definitions apply.

Competent person (at a specific task)
A person who can correctly perform the task. They have usually acquired the knowledge and skills to do this through a combination of training, qualifications, and experience.

Participant
A person who takes an active role in an adventure activity but is not in a leadership or supervisory role.

Direct supervision
Is when the person supervising is in a position to be able to physically intervene and proactively manage anticipated hazards.

Edge
The place over which a person could fall if they are not attached to a safety system.

Good practice
The range of actions currently accepted within the adventure and outdoor sector to manage the risk of harm to staff, participants, and visitors.

Guide
A person who is responsible for guiding participants.

Health and safety
See the appendix for an explanation of the terms 'all reasonably practicable steps', 'hazard', 'significant hazard', and 'serious harm'.

Incident
An event that caused or could have caused harm to any person.

Indirect supervision
Is when the person supervising is able to communicate with the person being supervised, but may not be able to physically intervene to manage hazards should they develop. There are two types of indirect supervision – proactive and reactive:

- Proactive indirect supervision is where the supervising staff member is actively monitoring the participant and is in a position to provide verbal assistance to intervene and manage hazards should they develop.
- Reactive indirect supervision is where the supervising staff member is in a position to communicate verbally and provide assistance to a participant when sought, but may not be actively monitoring the participant or provide pre-emptive assistance.

Littoral zone
The littoral zone is the part of a sea, lake, or river that is close to the shore.

Operator
Person or other legal entity (whether an employer, principal, or self-employed person) who provides an adventure activity to a participant.

Qualified
A person who holds a current nationally recognised qualification.

Risk
Effect of uncertainty on objectives.

Risk assessment
A process undertaken by a competent person to identify risks, and to assess them according to their significance.

Safety critical task
A task which if performed incorrectly will likely lead to serious harm.

Safety management plan (SMP)
The written plan outlining the systems an operator will use to manage safety.

Safety management system (SMS)
The overarching management system for directing and controlling an operation in regard to safety.

Scrambling
The use of hands and feet to traverse uneven ground without the need for technical equipment (harness, rope, or protection hardware). It does not include climbing techniques such as belaying and abseiling.

Sector
New Zealand adventure tourism and outdoor education providers, support organisations, and associations. A specific part of the sector may be referenced, eg the coasteering sector.

Staff
Employees, contractors, or volunteers who work for an operator as instructors or guides and are responsible for the safety of participants undertaking high wire or swing activities.

Standard operating procedures (SOPs)
Written information outlining how an operator plans to conduct a particular activity or task.

Technical expert
A person who has professional credentials such as a high level, nationally recognised qualification, or extensive knowledge, skills, and experience. They advise auditors and operators on technical tasks, including reviewing activity practices.

Section 1: Introduction

This is an Activity Safety Guideline for guiding and instructing coasteering, although the term 'guiding' is used throughout to mean guiding and instructing.

It is split into 11 sections. In Section 1 you will find:

- An explanation of the scope of this guideline.
- A description of the New Zealand coasteering sector.
- An introduction to the safety context for coasteering activities in New Zealand.
- The purpose of this guideline and how it relates to the health and safety legislation.

An explanation of the application of this guideline – how to use it to build your standard operational procedures and pass safety audits.

Section 2 is about the hazard management process; Sections 3 through 10 provide coasteering specific safety recommendations; and Section 11 gives information about reviewing your safety systems.

1.1 Scope

The guideline describes what coasteering operators and technical experts consider is good practice for actively managing safety in providing commercial coasteering activities in New Zealand.

Coasteering activities referred to in this guideline include:

> Traversing along a stretch of intertidal zone or lakeside where immersion in water is an integral part of the activity. Participants travel across rocks and through water, using a variety of techniques including scrambling[1], swimming, and jumping into water. A rope may be used for safety, eg hand lines and confidence roping[2].

This guideline covers activities that meet this coasteering definition, whether or not they are advertised specifically as a coasteering activity.

Activities associated with taking participants to and from coasteering activities are outside the scope of this guideline. Operators who provide these activities need to manage the associated risks.

This guideline is written for commercial coasteering operators (the primary audience) and also for safety auditors (the secondary audience) as a benchmark for current good practice.

It will also be useful for:

- Other people involved in coasteering activities, such as trainers and people involved with providing non-commercial coasteering activities.
- Activities other than coasteering that involve similar risks, hazards and techniques.

[1] The climbing and scrambling within the scope of this guideline is considered non-technical and low level.

[2] Some coasteering may also include technical activities such as abseils, via ferrata, and tyroleans. Technical activities within coasteering are outside the scope of this guideline. For information on good practice, see the relevant activity safety guidelines at www.supportadventure.co.nz

This guideline focuses on preventing death or other serious harm. It identifies common significant hazards that people may be exposed to during a coasteering activity, and makes recommendations for managing these hazards.

> *'Safety management systems are made of a safety management plan underpinned and driven by a positive safety culture.'* www.SupportAdventure.co.nz
>
> For information on developing a safety management system, go to: www.SupportAdventure.co.nz

1.2 Purpose of this guideline and the SupportAdventure website

This Coasteering Activity Safety Guideline ('the guideline') aims to provide practical recommendations for operators in New Zealand to actively manage the safety of the coasteering activities they provide.

The SupportAdventure website (www.SupportAdventure.co.nz) provides guidance for adventure activity operators on developing good practice safety management systems. It includes information and examples for developing a safety management plan.

This guideline and the SupportAdventure website act as companions to the health and safety legislation. They are not part of the health and safety legislation, but following their recommendations will help operators to meet legal requirements to take all reasonably practicable steps to identify and manage risks.

An investigation into an incident may look at how well an operator followed this guideline.

1.3 Use this guideline to build safety

As an operator, you need to have an overall safety management plan that you use to manage health and safety in your operation. You also need to have standard operating procedures (SOPs) for each activity you provide.

This guideline provides good practice safety recommendations to help you develop your SOPs. Many of the section titles in this guideline will correspond with headings in your SOPs document. However, it is important to consider all the recommendations in this guideline as you develop your SOPs. A significant risk is often managed by a number of different strategies and, like your SOPs, using a section of this guideline in isolation could lead to missing important safety recommendations.

When developing your SOPs, conduct a site-specific hazard assessment, consider the recommendations in this guideline, and add the relevant procedures to your SOPs. Where this guideline gives examples, they are not exhaustive – think of other examples that could apply to your specific activity.

It is acknowledged that risks may be managed in ways other than those recommended in this guideline and achieve at least the same level of safety. Before operating in ways other than those recommended in this guideline, seek advice from a coasteering technical expert or other competent person. You will need to be able to justify why you use a different method from this guideline.

It is essential that, alongside site-specific hazard assessments and the use of this guideline, guides conduct ongoing dynamic hazard assessment and management.

The responsibility for making safe decisions remains with the operator.

1.4 The coasteering sector

The different aspects of the sector

Commercial coasteering has been operating in New Zealand since the late 1980s. Currently, coasteering predominantly occurs through outdoor education centres, and therefore the activity is primarily aimed at providing coasteering experiences to school students. We are not aware of any coasteering operators whose principal market is based on tourism.

The majority of coasteering operators are providing one to four-hour experiences which involve scrambling, swimming, and jumps into water usually from one to 10 metres in height.

The activity is not as established as many other adventure activities, and currently there are no coasteering-specific qualifications and there is no formal coasteering association in New Zealand. However, there are international examples such as the British Coasteering Federation, which also has a Coasteer guide qualification.

The sector today

The sector provides educational and recreational activities for thousands of people each year.

> There have been multiple drownings during an activity that involved rock climbing/traversing around a headland. However, this was a rock climbing traverse, not coasteering in that there was use of technical equipment and there was no intention of entering the water. Although this activity does not fit this guideline's definition of coasteering, relevant learning from the incident has been incorporated and the recommendations are likely to be useful for any activities conducted on the seashore.

There are no nationally recognised qualifications specifically for coasteering activities, but there are other qualifications with significant crossover of skills such as canyoning, caving, glacier guiding, sea kayaking, white water kayaking, pool life guard award, surf lifesaving, and swift water rescue.

The different parts of the coasteering sector have not been well connected and the development of this guideline was welcomed as an opportunity to come together and share safety information.

1.5 Legislation

Commercial coasteering operations, as are all workplaces, are subject to the health and safety legislation.

Health and safety legislation that applies to commercial coasteering operations is the Health and Safety at Work Act 2015 – 'the Act'.

Health and safety legislation that could apply to commercial coasteering operations is the Adventure Activities Regulations 2016.

The health and safety legislation uses both 'operators' and 'providers' to refer to people or organisations who provide activities such as coasteering. This guideline uses 'operators' throughout.

1.6 Use this guideline to help you pass safety audits

The Adventure Activities Regulations require coasteering operators to obtain and pass independent safety audits.

Safety audit standards specify the standards or requirements that adventure activity operators must comply with to reduce risks when providing adventure activities. Safety audit standards will specify:

- The general standards and requirements for all operators.
- That an operator's SOPs must conform to good practice for the activity.

This guideline sets out recommended good practice for coasteering activities and will therefore help operators and safety auditors to assess whether an operator's SOPs conform to good practice.

The Adventure Activities Regulations 2016

Coasteering activities may expose the participant to risks of the kind defined in the Adventure Activities Regulations. The Adventure Activities Regulations cover activities where:

- the recreational or educational experience the participants have is the main purpose; and
- the participants are guided, taught, or otherwise assisted to participate in the activities; and
- the design of the activities deliberately exposes the participants to a risk of serious harm that must be managed by the operator of the activity; and
- failure of the operator's management systems (such as failure of operational procedures or failure to provide reliable equipment) is likely to result in serious harm to participants, or participants are deliberately exposed to dangerous terrain or dangerous waters.

The regulations require operations providing these activities to undergo an external safety audit and be registered.

For more information, go to the SupportAdventure website: www.supportadventure.co.nz/adventure-activities-regulations

To view the Adventure Activities Regulations Safety Audit Standard, go to: www.business.govt.nz/healthandsafetygroup/information-guidance/all-guidance-items/safety-audit-standard-for-adventure-activities-2013-requirements-for-a-safety-audit-of-operators-march-2013

Section 2: Hazard Management

This section looks at the following steps in the hazard management process:

- Identifying and assessing hazards.
- Managing hazards.
- Managing the hazard of drugs and alcohol.
- Using competent persons.
- Incident reporting and learning.

The hazard management process is a key part of an overall safety management plan. The steps involved enable hazard management to be built into SOPs.

Hazard management processes need to be driven by a positive safety culture. Apply hazard management processes to all operational situations including new activities, standard activities, and when there are changes to equipment or hazards.

Hazard management involves both a scheduled and dynamic approach to identify, assess, manage, communicate, and record hazards in every part of an operation.

For an explanation of the terms ‘practicable steps’, ‘significant hazard’ and ‘serious harm’, see the appendix.

2.1 Identifying and assessing hazards

Identify significant hazards both systematically and dynamically. The systematic part of identifying hazards should use a variety of methods such as:

- inspecting sites physically
- consulting with other industry operators
- reviewing standard operating procedures
- reviewing past incident reports and ‘lessons learned’.

Assess all hazards to identify which ones are significant. Align assessment and rating systems with current good practice and take into account the nature and context of the activity.

2.2 Managing hazards

Manage hazards according to the ‘eliminate, minimise’ hierarchy of action. Due to the inherent risk of coasteering activities, some hazards cannot be eliminated, and can only be minimised.

Hazard management should reduce the risk of harm to acceptable levels. What these acceptable levels are will depend on the nature and context of the activity, participant ability, and on current good practice.

Managing hazards includes monitoring them for changes in their significance. A higher level of management, such as moving from minimising to eliminating, may be necessary if a hazard increases in its likelihood to cause serious harm, eg a large ocean swell may mean that a coasteering activity should not take place.

2.3 Managing the hazard of drugs and alcohol

The Adventure Activity Regulations explicitly require operators to manage the drug and alcohol-related risks in their workplaces, starting with a clear drugs and alcohol policy in their safety management plan. Auditors will expect to see a policy suited to the risk within the operator's workplace, and evidence that it is being implemented.

To see the WorkSafe guidance document on managing drugs and alcohol-related risk in adventure activities go to:

www.business.govt.nz/healthandsafetygroup/information-guidance/all-guidance-items/guidance-for-managing-drug-and-alcohol-related-risks-in-adventure-activities

2.4 Using competent persons

Use suitably competent people to identify, assess, and manage hazards. For more information on staff competence, see Section 6.3.

Ensure the competent person(s) is familiar with the operator's safety management system, participant market, relevant site specific information, and has access to historical information on site hazards and incidents.

2.5 Incident reporting and learning

Report, record, and analyse all incidents and concerns that affect safety or have the potential to affect safety. This is done to enable learning and to help stop the incident happening again. Act on anything you learn.

Incident reporting systems need to be used effectively. Induction and ongoing training are vital, but are only a part of ensuring that this happens. The system must be openly and regularly used, particularly by senior staff, to have any chance of success.

To encourage responsible reporting, take care to think of reporting and recording separately from the incidents themselves. Avoid penalising people for reporting incidents – good reporting and recording should be seen as positive behaviour alongside whatever faults may have led to an incident.

For more information on hazard management processes, go to:
www.supportadventure.co.nz/safety-management-plans/hazards

For more information on incident reporting, go to:
www.supportadventure.co.nz/safety-management-plans/incidents

2.6 Hazards most likely to cause serious harm

This guideline focuses on preventing death or other serious harm. While all significant hazards need to be managed, some that are more likely to be associated with serious harm than others. Ensure safety management strategies are focused on managing these hazards, and that this includes highlighting them in staff meetings and regular hazard management reviews.

Coasteering is an activity that can be high risk, depending on water conditions, weather conditions, and activity location. Coasteering often involves swimming and interacting with a marine environment, and therefore exposes people to the risk of drowning.

The most likely causes of serious harm in the coasteering sector are: drowning, falling from height, and hypothermia. The hazards considered most likely to contribute to these are:

- Unsuitable environmental conditions, eg significant ocean swell.
- Unsuitable route choice – too technical, too high, too exposed to prevailing swell.
- Not suitably dressed for the temperature.

Good practice for managing each of these hazards involves a number of different strategies. When developing your SOPs, ensure you consider all the relevant recommendations in this guideline – using a section of this guideline in isolation could lead to missing important safety recommendations.

Section 3: The Coasteering Environment

All coasteering activities occur around water and can involve height. Managing the associated risks is a focus of every section of this guideline. There are, however, other factors of the coasteering environment that are associated with serious harm. This section identifies good practice hazard management strategies for dealing with these aspects of the coasteering environment:

- The effects of cold temperatures.
- The risk of being swept into the sea.
- The risk of rockfall.
- Extreme weather and other natural events.
- The risk of increasing swell size and unexpected waves.
- Changes to the hazards.

The information in this section should not be considered all-inclusive. The significance of environmental hazards varies from one site to another. It is essential to carry out site-specific hazard management processes, and for guides to conduct ongoing dynamic hazard identification, assessment, and management.

3.1 Effects of cold temperature

Coasteering often involves people being in water and without shelter for extended periods of time. This leads to the risk of cold air and/or water temperatures leading to people becoming hypothermic or struggling to safely participate in the activity.

Strategies for managing cold temperatures should be based on the associated risk. Options include:

- ensuring that participants are equipped for the expected temperatures, eg wetsuits
- managing the start times and duration of trips to suit the temperature
- minimising the time participants are exposed to cold while coasteering – such as efficiency in jumps and movement along the coastline, and limiting time spent in the water or wind
- carrying shelter, extra thermal clothing, food, and heat sources
- training guides to recognise and manage cold temperature hazards.


Photo: Skills Active

3.2 Risk of being swept into the sea

Coasteering activities at sites on the coast can include the risk of people being swept into the sea. This risk could affect those participating in the activity and those waiting to participate or accessing the site. Assess the site for the likelihood of people being swept into the sea and develop hazard management strategies based on the associated risk. Ensure the assessment considers the effect of tides, unexpected waves, winds, and ocean swell height, force, and direction.

Hazard management options include:

- Ensuring guides know and use the best available methods for predicting ocean conditions such as forecasting services and local indicators.
- Establishing parameters for site use such as time margins either side of high or low tide, maximum ocean swell height, direction and wind combinations, and the speed and effect of tidal streams.
- Using local no-go indicators such as whether a particular rock is clear of waves.
- Ensuring pre-activity procedures include checking that ocean conditions are suitable.
- Ensuring there are procedures for cancelling the coasteering activity due to concerns about ocean conditions.
- Establishing procedures for managing unexpected changes in ocean conditions such as safe waiting areas, escape routes, and evacuation.


Photo: Skills Active

- Considering the effect of any changes to hazards in how safety needs to be managed at different environmental conditions such as tide levels or swell directions.
- Site-specific hazard identification for differing states of tide, swell conditions, and differing environmental conditions. including those that exceed operating limit.
- Establishing procedures for what to do if a person or people are swept into the sea.

3.3 Risk of rockfall

Assess, monitor, and manage the coasteering venue for the likelihood of rock fall. Assessment and monitoring should be based on the associated risk – consider the type, shape, and quality of the rock, as well as vegetation.
Note: In extreme cases a cliff face could collapse. For information on cliff face collapse, see Section 3.3 of the Abseiling ASG.

Strategies for managing rock fall should be based on the significance of the risk. Options include:

- avoiding the area by choosing a different route, eg swimming
- wearing helmets
- ensuring participants know to move quickly through potential fall zones
- monitoring the effect of weather and establishing parameters around factors such as rainfall
- stabilising loose objects – this may be simple or quite complex, such as using experts to stabilise or remove loose rock.

3.4 The effects of weather and other natural events

People can be exposed to the effects of high winds, heavy rain, and lightning. Earthquakes can create rock fall and tsunamis.

Ensure guides are well aware of the risk of hazardous weather and other natural events for the coasteering site and know how to monitor, plan for, and react to events should they occur.

Strategies for managing hazards associated with weather and other natural events should be based on the associated risk. Options include ensuring that guides know:

- local hazardous weather patterns and indicators such as relevant forecasts and visual signs
- how and when to cancel the activity
- procedures for dealing with a natural event on site, safe waiting areas, and evacuation routes.

3.5 Risk of increasing swell size and unexpected waves

Coasteering exposes people to hazards associated with increasing swell size and unexpected waves.

Ocean swell height can rise for several reasons, including distant storms and clapotis (the interaction of reflected waves and swell).

Ensure that guides are well aware of the associated risk and causes of rising swells for the coasteering site(s) they work, and how to monitor, plan for, and react to increasing swell levels should this occur.

Strategies for managing hazards associated with high and rising water levels should be based on the associated risk. Options include ensuring that guides know:

- likely increasing swell heights for particular weather patterns including storm surges
- the best weather forecasting service available (most up to date and most accurate), and how to use it
- how and when to cancel a coasteering trip due to increasing swell height
- methods for monitoring swell height, wave level indicators, and maximum safe wave heights
- procedures for dealing with rising swell heights, such as escape routes and evacuation procedures
- the signs of incoming tsunami and the quickest evacuation route
- dangers of currents and tides when people are in the water.

3.6 Changes to the hazards

Check sites after environmental events that could have changed or created hazards. These could be natural, eg storms or earthquakes, or man-made, eg sewage/agricultural run-off.

Record any changes and notify relevant staff and other known coasteering site users. If marine life could pose a hazard, this should be monitored, assessed, and management strategies put in place.


Photo: OPC Great Barrier

Section 4: Coasteering Activities

This section looks at three common coasteering activities. It identifies significant hazards that they usually involve, and good practice for managing those hazards. The three activity areas are:

- Jumping into water.
- Swimming and exiting from the water.
- Risk of falling from height.

The information in this section should not be considered all-inclusive. It is essential to carry out site and activity specific hazard management processes, and for guides to conduct ongoing dynamic hazard identification, assessment, and management.

The most common injuries while coasteering usually occur while jumping, scrambling, and climbing out of the water.

4.1 Jumping into water

Some of the most likely coasteering activity serious harm injuries are caused by impacts from jumping. Safety management strategies should focus on preventing these from occurring.

Jumping involves risks associated with height, speed, water, and the inability to directly manage the participant throughout the activity.

Identifying the hazards

Hazards that should be considered when jumping include:

- exposure of people to edges and falling
- difficult and exposed access routes
- unstable take-off areas
- lack of confidence or ability of participant
- long horizontal distance of landing zones from the take-off position
- landing zone too shallow or containing obstacles, eg rocks or swimmers
- non-aerated water in landing zone, eg hard landings when jumping from height
- high speed of participant on landing
- equipment impacting the jumper on landing, particularly packs
- waves in the landing zone surging a person into rocks.

Managing the hazards

Guides should:

- Directly control participant take-off positions if it is integral to safety, such as the guide being attached at the top of a jump, eg sling and wrist loop, to enable the hands-on guidance of the participant.
- Protect participants from falling as they access take off areas – see Section 4.3.
- Assess landing zones to ensure any impact on the participant is acceptable: consider height, water depth, obstacles, horizontal distance from take-off point to water, and entry technique.
- Consider entry technique. A conservative approach is feet first, arms crossed. Special consideration is necessary if people want to do flips, dives, or stunt jumps, eg flips should only be considered where the jump site has no possibility that the jumper could land in anything but safe deep water.
- Using safety calls at crucial safety moments such as before the participant jumps into water.
- Actively manage difficult landing zones, eg position a guide at the bottom to indicate the safe landing area and/or mark a hazard.
- Use height progressions to ensure participants are capable of higher jumps, and consider a jump test before committing a participant to the trip if there are compulsory jumps.
- Have participants swim away from the landing zone to avoid being hit by another person, and to avoid being pushed by waves into rocks.
- It is advisable not to wear a pack when jumping.

Participant briefing

Guides should:

- Instruct participants on take-off and landing positions including body, head, and limb positions.

- Inform participants that they can do a less risky activity where relevant, such as a lower jump.

  Note: Participants should be informed before a trip commences if a trip contains high-risk activities with no alternative options. For more information, see Section 7.2.

- Inform participants not to jump unless the landing zone is clear.
- Instruct participants know how to take off and land safely if they lose balance or control.

4.2 Swimming and exiting the water

Coasteering involves swimming and climbing out of the water and onto rocks, and therefore exposes people to the risk of injury, hypothermia, and drowning.

Identifying the hazards

- Hazards to consider when swimming and exiting the water include:

- participants with limited or no swimming ability
- aerated water – reduced buoyancy
- sharp and/or abrasive surfaces
- swell, surge, chop
- entrapment (in rocks and kelp)
- cold water temperatures
- rips, currents, and tidal streams
- wildlife, eg seals

Managing the hazards

Include strategies for managing hazards in technical systems, participant management techniques, and participant information.

Technical systems

Guides should:

- Establish safe swell guidelines and visual indicators. For more information on this, see Section 3.5.
- Choose swims that match participant abilities.
- Assess swims to ensure that guides can supervise and intervene as needed to manage safety.
- Directly supervise difficult swim exit points where exiting at that point is integral to safety.
- Minimise entrapment potential by choosing swim routes that minimise entrapment hazards by being aware of submerged terrain.

Participant management

Guides must understand the characteristics of the group and manage the safety of each member.

- Check participants' swimming competence before activities that demand strong swimming ability.

- Ensure a test of swimming ability is undertaken before participants are committed to a section where there are significant hazards contributing to the risk of drowning, and where managing those hazards requires the participant to have specific swimming ability.
- Identify and manage weak swimmers – consider modifying the trip or route, matching them with good swimmers or the guide.
- Ensure that supervision levels and strategies are in line with the group's needs – see Section 7.3.

Participant information

Ask participants to disclose information to the guides that may impact on their ability to complete the trip, eg a shoulder that easily dislocates.

Include information on suitable hazard avoidance techniques in safety briefings for swimming, eg.

- swimming techniques suited to route to be negotiated
- ways to recognise and manage hazards where appropriate, such as sharp rocks, swell pushing a person into rocks, and entrapment potential
- how to help a person out of the water
- actively pushing away on a failed attempt to climb onto rocks

4.3 Risk of falling from height

Negotiating coastlines can involve exposing participants and guides to the risk of falling from height.

Reducing the risk of falling

Manage general exposure to the risk of falling by ensuring that people stay far enough away from edges to eliminate the risk. This will often include establishing safe zones back from an edge and communicating these clearly to participants.

Sometimes exposure to edges cannot be avoided. Belay participant and guides, or attach them to a safety point when in the opinion of a technical expert or suitably qualified person:

- they are likely to fall, and the fall is likely to cause serious harm, or
- a guide needs to be attached in order to protect the participant safely.


Photo: OPC Great Barrier

Identifying the hazards

Factors to consider when identifying hazards around fall potential are:

- Are they likely to fall – difficulty, underfoot surface, participant ability?
- Is the fall likely to cause harm – height, landing zone, water depth (consider tide height), sharp/abrasive surface?

It is a common error to focus solely on participants – ensure that staff are also protected from falling from height.

The often quoted concept that no controls are needed where a person faces a three-metre fall or less is incorrect. Manage the risk of falling any time a person could be injured if they fall.

Managing the hazards

Include strategies for managing these factors in technical systems, participant management techniques, and participant briefings. Techniques to protect participants from falls include:

Technical systems

Options include:

- Spotting participants.
- Using handlines.
- Deep water 'belaying' where a faller will land safely in deep water.
- Spacing participants at distances that ensure they will not cause each other to fall and, if they fall, they will not land on another person.
- Ensuring that individual participants' supervision levels and strategies are in line with their needs. See Section 7.1.
- Ensuring that participants are suited to the activity.
- Using technical systems such as abseils, via ferrata, and tyroleans if necessary.

Managing the risks associated with these activities is covered by other activity specific guidelines such as the Abseil ASG and the High Wire and Swing ASG.

Participant information

Include information on suitable hazard avoidance techniques in safety briefings for falling, eg:

- Identify places where the hazard exists.
- Route selection.
- Three points of contact.
- Push away to clear rock if falling into deep water.
- Not climbing or swimming below others who may fall.

Section 5: Coasteering Management

Coasteering site and activity management includes ensuring each coasteering activity is staffed and monitored effectively, and that the most practicable communications systems are in place.

5.1 Guide knowledge of the site and system

Use guides competent in the skills required to manage the coasteering activity. For more information, see Section 6.3.

Ensure that guides are familiar with the hazards of the site they are working, and with the operator's standard operating procedures for the activity. The amount of training this requires will vary.

Factors to consider include:

- the specific hazards and associated safety management strategies of the coasteering site, particularly those that affect accessing the site
- the complexity of the coasteering activity such as simple scrambling along a sheltered coastline with optional swims to moving along exposed coastlines with compulsory swims
- the competence of the guide.

5.2 Site monitoring

Monitor group safety with a suitable backup person and on-site monitoring.

Backup monitoring

Ensure there is a suitable backup person for a trip. The person providing backup monitoring is responsible for initiating emergency response according to the procedures in the operator's safety management plan. Ensure they are as contactable as practicable while the activity is underway.

Note: The backup person should not be involved in the coasteering activity.


Photo: Skills Active

On-site monitoring

Ensure every site has a guide who is responsible for monitoring general site safety and ensuring the activity follows the operator's standard operating procedures and managing emergency response procedures.

This person should be an experienced guide who the operator is confident will exercise good judgement under pressure.

Note: This does not remove the responsibility for each individual guide to manage the safety of participants within their group.

5.3 Communication systems

Communication systems need to cover communication between those at the site and those monitoring the activity or other external emergency support, and between guides running the activity where relevant.

Communicating with external support

Ensure each site has a primary communication system, and that a backup system is available if the primary system is likely to be compromised. Compromising factors could include getting wet or suffering from impact damage.

The primary system should be the most effective option practicable and should be a two-way device, eg:

- a robust check in/check out procedure
- access to landlines
- a cellphone
- a satellite phone
- marine VHF handheld radios
- two-way texting devices – there can be delays in sending and receiving texts

One-way devices such as personal locator beacons or SPOT trackers are also used.

Where a communication device is used that relies on coverage, ensure that guides and back-up personnel are aware of coverage and non-coverage areas.

Difficulty in communicating with external support can be a significant hazard if coasteering activities are provided in remote areas. See Section 9.2 for information on contingencies for limited access to external emergency support.

Communication among guides

If guides are working together to manage safety of the same coasteering activity, ensure that they can communicate easily or are managing tasks that do not require them to communicate with each other.

Ensure that guides are trained in the use of an agreed set of signals. These will often include hand, whistle, and rope signals. Examples of some commonly used signals can be found on the New Zealand Rafting Association website www.nz-rafting.co.nz

Section 6: Staff

Competent staff are one of the mainstays of ensuring safety. This section looks at six key aspects of staffing your operation:

- Identifying safety responsibilities.
- Verifying competence.
- Staff competence recommendations.
- Using assistants to help manage safety.
- Identifying and managing unsafe staff.

Using a supervision system that provides ongoing support for competent staff is critical. For more information on supervision, see Section 7.3.

6.1 Identifying safety responsibilities

Ensure the safety responsibilities and competence requirements of each job within the operation are correctly identified. These jobs should include operations management, and guiding and instructing.

When identifying a job's competence requirements, factors to consider include:

- levels of experience and judgement
- personal technical skills
- risk management, group management, and leadership skills
- ability to operate according to standard operating procedures
- familiarity with and understanding of the operational environment
- ability to communicate safety requirements/directions clearly to the participant
- rescue and emergency management skills, including first aid[3]

6.2 Verifying competence

It is the responsibility of the operator to ensure that staff are competent. This section looks at how to use qualifications to verify skills, and how to verify those skills which are not covered by qualifications.

Using qualifications

There are no nationally recognised qualifications specifically for coasteering, but there are qualifications with significant crossover of skills such as canyoning, caving, glacier guiding, sea kayaking, white water kayaking, pool life guard award, surf lifesaving, and swift water rescue.

Where a qualification matches a component skill set needed for a job that carries responsibility for managing high levels of risk, it can be used as a form of evidence. Operators should ensure they know which skills and knowledge a qualification actually measures and check these against those required for the job.

[3] Ensure the number of staff with first aid qualifications, and the type of qualifications they hold, are suitable for the likely first aid scenarios of the coasteering activities.

Verifying competence in skills not covered by qualifications

Ensure that skills or knowledge not covered by the qualification are verified by other suitable means — use a measure that suits the degree of safety responsibility associated with the skills.

Use a suitable person to verify competence. This person should have a qualification to do so, or be a technical expert in the skill to be verified who also understands national expectations on the standard of competence required. For more information on competencies for assessing guide skills, see Section 6.3.

Keep records of competence verification processes and results.

For more information on verifying staff competence, go to:
www.supportadventure.co.nz/safety-management-plans/staff

6.3 Staff competence

This section does not address broader safety related roles such as operations management. Ensure that all safety responsible roles are identified and staff are competent. For more information, see competency requirements in the tables below.

This section identifies the technical safety responsibilities and competency requirements for guiding and instructing coasteering activities.

For the purposes of this guideline, the areas of staff responsibilities have been separated into the following roles: Guide, Perform Rescue, Senior Guide, In-house Trainer, and In-house Assessor.

Guide

Purpose: To guide coasteering activities under the supervision of a Senior Guide.

Safety Responsibilities	Safety Functions	Safety Competencies
Assess competencies in this table in relation to the activities at the site		
Guide participants	Train and assess participants to participate in coasteering activities Guide, supervise, and monitor participants as they participate in coasteering activities	Can demonstrate coasteering skills sufficient to apply their role in the supervisory system, including sufficient swimming ability Can apply their role in line with the trip's standard operating procedures Can apply a process to teach and assess participant coasteering skills Can apply a process to guide participants through the coasteering activity, including clear communication skills Can identify and respond appropriately to hazards, including weather and sea conditions Can demonstrate good awareness of participant performance and needs Can identify and correct dangerous participant behaviour and coasteering techniques
	Assist in managing emergency scenarios in the field	Can follow the direction of a person with the perform rescue competencies to assist with managing emergency scenarios Has an appropriate first aid qualification Can demonstrate the management of a spinal injury in water
Ensure equipment on the trip is appropriate, used correctly and is safe for use	Select appropriate equipment for the trip Allocate equipment to participants and ensure it if fitted correctly Conduct pre-use equipment checks and continually monitor equipment throughout the trip	Has knowledge of what is good practice equipment for the trip Has knowledge of correct use of the operator's safety equipment Can identify and manage faulty/damaged equipment Can demonstrate correct fitting of equipment to participants Can apply a process to suitably monitor safety equipment throughout the trip

Perform Rescues

Purpose: To perform the practical aspects of rescues for all identified rescue scenarios.

Safety Responsibilities	Safety Functions	Safety Competencies
Ensure there is at least one person on the trip with these competencies		
Responding to emergency scenarios	Perform rescues for all identified emergency scenarios	Has knowledge of the operator's emergency response procedures Can demonstrate rescues for all identified emergency scenarios (these may vary from site to site) including: • in-water incapacitated person • in-water and not able to access land • hypothermic person • cold water survival situations. Can demonstrate specific rescue skills including: • throw bagging • towing a participant with and without fins – contact and non-contact tows • managing a panicking swimmer • deep and shallow water entry techniques • knowledge of low to high risk hierarchy of rescue (talk, reach, throw, wade, go, outside help)
	Apply the operator's overarching in-field emergency management process	Can apply the operator's overarching emergency management procedures, including ensuring that people are no longer exposed to risks of drowning or falling from height

Senior Guide

Purpose: To guide coasteering activities as a sole guide or as the lead guide on trips with multiple guides.

Safety Responsibilities	Safety Functions	Safety Competencies
Ensure there is at least one person with these competencies. This role may only be held by a person with the competencies for both the Guide and Perform Rescue roles.		
Manage the application of the operator's SOPs	Apply and oversee the activity's SOPs	Can demonstrate knowledge of the application of staff roles within the facility's SOPs
	Delegate tasks to staff	Can apply a process to oversee the activity's SOPs
	Monitor staff	Can identify and correct dangerous guiding techniques and staff behaviour
Manage the application of the supervision system	Oversee the facility's supervision system	Can apply a process to oversee the facility's supervision system
Ensure all safety system equipment is used correctly and safe for use	Continually monitor and assess all equipment in use	Can identify and manage dangerous safety system equipment via repair, replacement or isolation, including safety lines and critical connections
Manage emergency scenarios	Oversee the facility's overarching emergency management process	Can apply a process to manage the facility's overarching emergency management procedures Has good visual scanning skills Has strong communication skills

In-house Trainer

Purpose: To train guides for safety responsible roles for a particular facility or operation

Key Areas	Key Safety Functions	Key Safety Competencies
Deliver staff training	Train staff to perform job role functions	Can demonstrate knowledge of job role functions Can apply a system to deliver staff training

In-house Assessor

Purpose: To assess guide competence in safety responsible roles for a particular facility or operation

Key Areas	Key Safety Functions	Key Safety Competencies
Assess staff	Assess staff performance against a standard (internal or external)	Has knowledge of the standard applicable for the skills being assessed Can demonstrate skills and knowledge in the competencies that are being assessed, to at least the level that they are assessing Can assess competence and provide feedback

6.4 Competence verification

There are no coasteering nationally recognised qualifications in New Zealand, although there are qualifications that include some of the competencies for the guiding and instructing roles. See below for more information.

Check the competency requirements in this section and ensure that staff with corresponding safety responsibilities have their competence verified in the recommended safety competencies.

Ensure that when the activity is being undertaken there is at least one person verified as competent in the senior guide role on the trip.

Broader qualifications that include some of the competencies for coasteering

Nationally recognised qualifications in the following activities may include some competencies relevant to coasteering guiding roles: canyoning, caving, glacier guiding, sea kayaking, white water kayaking, pool lifesaving, surf lifesaving, and swift water rescue.

For more information, contact the following: New Zealand Mountain Guide's Association (NZMGA) www.nzmga.org.nz, New Zealand Outdoor Instructors Association (NZOIA) www.nzoia.org.nz, NZ Rivers Association (NZRA) www.nz-rafting.co.nz, Skills Active Aotearoa www.skillsactive.org.nz, and Surf Life Saving New Zealand (SLNZ) www.surflifesaving.org.nz

6.5 Using assistants to help manage safety

An assistant is responsible for managing some tasks within the guide role, but not all. Skills required will vary depending on the tasks to be managed. Using assistants involves the risk of hazards not being managed competently – particularly when the assistant is new to managing the tasks, such as teachers or parents.

When using assistants ensure that:

- tasks to be managed, safety responsibilities, and required skills are clearly identified and understood by the assistant and the guide
- the assistant is verified as competent in the required skills
- the assistant manages only the tasks for which they are verified as competent
- the competence of the assistant is considered when establishing participant supervision levels.

6.6 Identifying and managing unsafe staff

Do not permit a staff member to guide, or undertake other safety related tasks if staff believe they are in such a state of impairment that they may be a hazard to themselves or to any person on the activity. Impairment could be due to factors such as alcohol, drugs, injury, or fatigue.

Identify as a hazard any person who is unable to perform safety tasks as required to fulfil the responsibilities of their role.

Ensure that management strategies suit the significance of the hazard and are outlined in the operator's safety management system. The Adventure Activities Regulations require that drug and alcohol hazards are addressed through an explicit drugs and alcohol policy.

Ensure that initial hazard management for managing unsafe staff includes removing the person from the role requiring performance of safety tasks.

For the WorkSafe guidance document on managing drugs and alcohol-related risks in adventure activities, go to:

www.business.govt.nz/healthandsafetygroup/information-guidance/all-guidance-items/guidance-for-managing-drug-and-alcohol-related-risks-in-adventure-activities

Section 7: Participants

This section looks at three key aspects of managing participant safety. It considers significant hazards they usually involve and identifies good practice for managing those hazards. The three aspects are:

- Ensuring participants are suited to the activity.
- Informing participants about safety.
- Supervising participants.

7.1 Ensuring participants are suited to the activity

Assess participants to check that they are suited to participate in the activity. This should happen before the activity begins and be ongoing during the activity itself. This section looks at assessing participants, establishing age guidance, and identifying and managing unsafe participants.

Assessing participants

Use information gathered while assessing participants to inform activity options, participant supervision levels, and safety management techniques.

Clearly identify what to assess in the operator's safety management plan. Staff other than guides, such as front-of-house staff or vehicle drivers, may be involved in assessing participants. Ensure participant assessment is consistent across staff and reflects the requirements of the activity.

Factors to consider when assessing participants include:

- fitness and physical ability
- psychological factors such as the ability and likelihood to follow instructions, fears and phobias, and confidence at height
- age
- medical issues, particularly pre-existing injuries
- the technical skills required for the trip or a particular activity, such as swimming.


Photo: Pete Ozich

Information on managing participants with mixed abilities can be found at www.supportadventure.co.nz/other-resources#MixedAbilities and in the handbook Mountain Safety Council Outdoor Safety Manual – Risk Management for Outdoor Leaders

Establishing age guidance

There are no overarching age recommendations for coasteering in New Zealand. Establish minimum age guidance for each coasteering activity.

Factors to consider include:

- the specific hazards of the coasteering activity
- the specific hazards of the site

- whether the participant fits the safety equipment
- the ease of site access and escape
- the ability to access external emergency support
- supervision levels
- experience and skill of guides.

Note: It is common practice for operators to require children aged under 18 to have guardian consent to participate in adventure activities – New Zealand law does not give clear guidance on this topic.

Identifying and managing unsafe participants

Do not permit a person to participate in a coasteering activity if they are in such a state of impairment that they may be a hazard to themselves or to any person. Impairment could be due to factors such as social-psychological, cultural/language barriers, alcohol, drugs, injury, or fatigue.

Identify as a hazard any participant who is unable to perform safety procedures as outlined in the safety instructions. Management strategies should suit the associated risk and include options such as increasing supervision levels or removing them from the activity.

See Section 6.6 for information on managing unsafe staff.

7.2 Informing participants about safety

Managing safety is more effective if participants are well informed, particularly on the risks and requirements of the activity. This section looks at four key aspects of informing participants about safety:

- Delivering safety information.
- Pre-activity risk disclosure.
- General safety information.
- Using demonstrations and activity progressions.

Delivering safety information

Safety information should be delivered by a guide who has been verified as competent to do so. Ideally, this person would be an experienced guide.

Ensure, as best as is practicable, that the participant has understood the safety information. A safety information aid should be readily available to any participant who has difficulty understanding the initial briefing, eg videos, pictures and diagrams, practical demonstrations, or written instructions in the participant's language.

Pre-activity risk disclosure

Before beginning the coasteering activity inform every participant of the following information:

- Coasteering is an activity involving risk of serious harm or death. Participants should be aware that the coasteering operator cannot totally guarantee the participant's safety.

- The activity may be mentally and physically demanding, and may require the participant to swim and be operating at height (emphasise these points to suit the particular activity).
- The participant needs to follow the instructor/guide's instructions at all times and understand that this is critical to their safety and that of the group.

Inform participants of significant hazards that cannot be avoided or place extra responsibility on the participant. These include:

- sole guided trips
- trips with difficult site access
- trips with limited communication with, or access to, external emergency support
- trips where the activities demand particular technical skills of the participant, eg difficult swims.

Note: Coasteering activities often involve children. Ensure pre-activity risk disclosure information is given to the correct people, such as parents and teachers. This may mean the information needs to be delivered twice.

General safety information

Instruct participants in coasteering awareness and techniques. This may occur pre and during the activity.

Factors to cover include:

- awareness of and warnings about the hazards of the activity
- the importance of listening to the guide
- procedures for managing general exposure to edges and impact from falling objects, such as staying back from edges, and the location of safe zones back from edges and moving away from jump zones
- methods for maintaining body temperatures
- emergency procedures for the site, such as staying where they are and waiting for instructions from the guide.

For parts of the activity involving a significant hazard, or requiring technical skill to participate safely, inform participants of:

- the hazard and warn of its dangers
- options for avoiding the hazard (or if there are no options, eg must undertake a four-metre jump)
- any relevant communication systems such as visual hand signals
- the techniques required to negotiate the hazard or participate in the activity, such as procedures for use of technical equipment and performing technical actions
- applicable emergency procedures or self-rescue techniques.

Using demonstrations and activity progressions

Use demonstrations and activity progressions where practicable, particularly for more difficult activities, to help ensure participants are prepared and fully understand what they are required to do.

7.3 Supervising participants

Establish a supervision system that supports staff and participants to manage themselves and others safely. Supervision systems for operations where participants do not perform safety critical tasks are much less complicated, but no less important, than for those that do.

This section looks at what to take into account when establishing a supervision system and what to include in a supervision system.

Establishing a supervision system

Assess the level of risk that participants or staff will make errors leading to serious harm.

Factors to take into account when assessing the level of risk include:

- whether participants perform safety critical tasks, such as supervising jumps
- for systems where participants perform safety critical tasks — the competence of participants, the likelihood that they will follow instructions and their acceptance of responsibility for managing hazards
- the number and competence of staff
- the complexity and margin for error of the safety critical tasks
- the number of people exposed to falling from height or colliding with objects at any one time – including participants who are waiting or have finished a jump
- the nature of staff safety tasks including the number of participants they are managing and over what period of time – consider hazards such as task repetition and fatigue
- the general hazards of the activity and the site or facility. For activity specific information, see Section 4.
- industry good practice participant supervision levels.

What to include in a supervision system

Ensure there is a staff member at the site responsible for managing the supervision system. This person should be an experienced staff member who the operator is confident will exercise good judgement.

This section looks at establishing a supervision system, establishing levels of supervision and parameters for sole instructing or guiding.

Consider the points above and ensure the supervision system is based on the associated risk and includes:

- maximum participant numbers and minimum supervision levels for the site and its activities
- clarity on any activity specific safety critical actions that require particular attention during supervision
- clarity on staff supervision responsibilities, eg site areas, activities, or participant groups
- strategies to enable staff to maintain the level of focus required to supervise effectively, such as buddy systems and minimising distractions
- clarity on procedures for ensuring supervision levels are maintained during unplanned staff breaks, such as toilet stops
- procedures for the management of participants who are waiting to participate in the activity or who has had their turn

- guidance on when the supervision system may need adjustment, such as an increase in the number of participants participating in an activity, a change in competence of participants, a change in the number of young children, an increase in the level of distraction, a change in environmental conditions, or less experienced or confident staff.

Establishing a supervision system

Some coasteering activities or sites may require an overarching supervision system to help manage risks associated with participants being exposed to edges, falling from height, drowning, or guides making errors associated with factors such as fatigue or task repetition. Develop a supervision system based on the associated risk.

Factors to consider when assessing the risk include:

- the hazards of the activity and site
- the number of people exposed to the risk of falling from height at any one time – including those accessing a jump site and those waiting at the top or bottom of the jump site
- the number of guides needed to adequately supervise participants
- the number of participants being taken coasteering and over what time period
- the amount of time a guide is working in the safety role
- the complexity of the safety management system – including the equipment
- the competence of the guide
- the likelihood that participants will follow instructions
- participant safety responsibilities and competence


Photo: OPC Great Barrier

Consider the points above and ensure the supervision system is based on the associated risk. Establish supervision levels according to the recommendations in the next section.

Ensure there is a staff member at the site responsible for managing the supervision system. This person should be an experienced staff member who the operator is confident will exercise good judgement. For more information on site and activity management, see Section 4.

Use other management strategies to support the supervision system with managing guide error due to factors such as fatigue and repetition, eg using checklists and keeping systems simple and consistent.

Establishing levels of supervision

Using suitable supervision levels is a crucial aspect of an effective supervision system. Establish a maximum number of allowable participants and minimum participant supervision levels for every coasteering activity and site.

The table below identifies common maximum ratios that are used with trained staff and healthy participants.

Instructor/Guide	Participants
1	12
2	15

Groups exceeding 15 participants should be managed as two or more separate groups. The ratios may need to be decreased depending on the participants' ability, local conditions, trip difficulty, guide experience, ability to effect a rescue, and other factors.

If using an assistant guide, consider which hazard management tasks they are verified as competent to perform before factoring them into supervision levels. For more information on using assistant guides, see Section 6.5.

For more information on establishing levels of supervision, go to:
www.supportadventure.co.nz/safety-management-plans/participants

Parameters for sole guiding

Many coasteering activities are sole guided. Sole guiding involves an increased risk of participants being inadequately supervised if the guide becomes incapacitated, or spending extended periods of time at the coasteering site without help in an emergency scenario.

Inform participants how they can assist with managing these risks. Safety management strategies should be based on the associated risk.

Options include:

- emphasising the heightened responsibility sole guiding places on them
- emphasising the importance of following instructions
- training them in what to do if the guide becomes unable to assist them, such as instructing them to stay where they are, training them in how to call for outside help, instructing the group how to get to a safe place, and supplying a map
- Identifying those with skills who may be able to assist
- training them how to maintain body temperature and how to use and access warmth sources.

The increased risk of participants spending longer on the trip in an emergency scenario is also present at sites with limited access to external emergency support. Sole guiding at these sites may not be suitable. For more information, see Section 7.3.

Requirements for sole guides

Ensure that sole guides are experienced and verified as competent to manage the trip alone. Factors to consider include:

- their level of experience and ability in the skills required for leading the activity, including managing emergency scenarios
- their degree of familiarity with the hazards of that activity and site
- their degree of familiarity with the operator's standard operating and emergency procedures.

Section 8: Equipment

Use equipment according to manufacturer's recommendations and current industry use.

Use equipment that complies with relevant internationally or nationally recognised standards such as those from the International Mountaineering and Climbing Federation (UIAA), the European Conformity (CE), and New Zealand and Australian standards (AS/NZS). Equipment should be manufactured specifically for rock climbing, abseiling, canyoning or white-water.

This section looks at:

- Participant and guide equipment.
- Emergency equipment.

8.1 Participant and guide equipment

Correctly fit equipment as per the manufacturer's instructions. Monitor equipment for fit throughout the trip.

Ensure that all participants and guides use the following equipment:

- helmet designed for the most relevant significant hazard presented by the activity, eg falling rocks or hitting head on rocks
- thermal clothing or wetsuits that is sufficient to protect participants from risks such as hypothermia and abrasion.
- footwear that is sufficient to protect from cuts, abrasions and slips e. closed toe, secure, and grippy
- equipment that provides sufficient buoyancy for the person to float – this must include a personal flotation device (PFD) and should include a wetsuit[4].

Note: A PFD is also useful to assist with managing shallow water landings, managing impact on the torso, and managing the ability to hold on to a person, such as when helping a participant climbing back onto the land from water.

8.2 Emergency equipment

Guide equipment

Ensure that each guide has the following emergency equipment:

- clothing sufficient to enable participation in emergency response, eg a dry top and thermal beanie
- a whistle suited to a wet environment
- a throw bag of a length suited to the site (this will usually be at least 15 metres)
- a length of webbing or a sling
- a rescue knife.

[4] Wetsuits are recommended for buoyancy, thermal properties, and protection from abrasion.

General emergency equipment

Ensure that group emergency equipment is sufficient and suitable for managing group safety and chosen based on identified emergency scenarios.

The following items should be considered:

- site specific extraction kit, eg slings, ropes, carabiners, prusiks
- shelter and heat sources such as space blankets, heat packs, bothy bags, ground insulation, high energy food, and additional thermal clothing
- fins
- rescue tube
- a backboard or stretcher – consider including rated attachment points for hauling and helicopter strop use.

Accessibility of emergency equipment

Ensure emergency equipment is usefully accessible. Options include guides attaching the equipment to their bodies, carrying the equipment inside a backpack, and caching equipment on the route.

When determining how to ensure the equipment is accessible, consider the identified emergency scenarios and the nature of the coasteering trip and its environment.

First aid supplies

Ensure that first aid supplies are suitable for the identified first aid scenarios of the trip.

Suggestions for first aid contents can be found at www.supportadventure.co.nz/other-resources#firstaid

Section 9: Emergencies

Develop clearly documented and practised procedures for the full range of emergencies relevant to the operation, from incident management through to crisis response.

Train staff and ensure that suitable equipment is available to manage each identified emergency scenario. For information on staff competence, see Section 6.3. For information on emergency equipment, see Section 8.2.

Site and activity monitoring and communication procedures are key components of your safety management system. They feature in both normal daily procedures and procedures for managing emergencies. They are addressed in Section 9.

This section looks at good practice for accessing external emergency support.

9.1 Accessing external emergency support

Ensure that suitable external emergency support is available as soon as is practicable and within a planned period of time, ideally within daylight hours. Specify this period of time in the operation's emergency procedures.

When conducting emergency planning and developing emergency procedures consider factors that could impact on the availability of suitable external emergency support.

These include:

- the ability to call for external support from the site
- the type of external emergency support required by each emergency scenario
- site access and evacuation options
- capacity and ability of local rescue resources such as community rescue agencies and other coasteering operations.

9.2 Contingencies for limited access to emergency support

Where coasteering sites are at locations with limited access to external emergency response, there is a risk that injured participants may spend longer without secondary emergency care. Choose hazard management strategies based on the associated risk.

Options to consider include:

- informing participants of the risk of a prolonged wait for emergency support in the event of an incident
- using more experienced guides and ensuring they are competent to manage identified emergency scenarios for an extended period of time, such as by holding a first aid qualification that includes managing scenarios over a longer period of time
- finishing activities early in the day to allow time for an overdue trip response and rescue
- considering accessibility when determining guide-to-participant ratios, assessing participants, and setting competence requirements for guides

- taking extra care and considering excluding avoidable higher risk activities, such as choosing less challenging coasteering routes or lower jumps
- training with or informing local rescue response personnel on site access and escape routes
- having resources available such as additional first aid equipment to manage an injured participant for longer periods of time.

For more information on developing procedures for emergency management, go to: www.supportadventure.co.nz/safety-management-plans/emergencies

Section 10: Safety System Reviews

Regular internal and external safety system reviews or audits are a crucial part of providing a safe coasteering operation.

Coasteering operations are required by the Adventure Activity Regulations to undergo an external audit before operating, and at regular intervals as defined by the Safety Audit Standard. To view the audit standard, go to: www.business.govt.nz/safety audit standard for adventure activities – requirements for a safety audit of operators

Conduct an internal, and potentially external, safety system review after an incident that caused serious harm, or might have caused serious harm.

Schedule internal reviews as part of the yearly safety routine – before and after the busy season are often good times. Reviews should check that:

- safety systems and procedures are aligned with the recommendations in this guideline and are at or above industry good practice
- the safety management plan accurately reflects the operator's systems and procedures
- everyone in the operation follows the agreed safety systems and procedures.

One person should have responsibility for ensuring that reviews take place, but everyone in the operation is responsible for being part of the process.

Record the process and the results, and share any relevant learning with staff and other coasteering operators.

For more information on safety system reviews, go to:
www.supportadventure.co.nz/safety-management-plans/checking-your-systems

Appendix: Health and Safety Terms

This guideline uses several terms you need to understand to be sure you comply with the health and safety legislation. This appendix looks at those terms, and what they mean for managing hazards.

The terms are:

- all reasonably practicable steps
- hazards and significant hazards
- serious harm.

All reasonably practicable steps

The health and safety legislation says you must take all reasonably practicable steps to safely provide adventure activities. You must take all steps that are reasonably practicable in the circumstances considering:

- the nature and severity of any injury or harm that may occur
- the likelihood of that harm occurring
- how much is known about the potential harm and the measures for eliminating, isolating or minimising the hazard from which the harm may arise
- the availability and cost of those measures.

Note: The 'circumstances' are those that an operator knows about, or ought reasonably to know about, taking into account good practice and knowledge throughout the adventure and outdoor sector.

The operator is responsible for balancing the likelihood and seriousness of potential harm against the cost, effort and effectiveness of measures.

Where there is a risk of serious or frequent injury or harm, a greater cost in the provision of safeguards may be reasonable. If there are significant hazards and the measures are too expensive, unavailable or ineffective, the only reasonable safeguard might be to cancel the activity.

Any judgement of whether a safeguard was 'reasonably practicable' will take into account good practice and knowledge throughout the industry.

The SupportAdventure website has guidance – *Health and Safety Act Made Easy*
www.supportadventure.co.nz/health and safety act made easy

Hazards and significant hazards

The Act says an adventure activity operator must take all practicable steps to systematically and regularly identify, assess and manage significant hazards. Hazards that are not significant also need to be managed and this process may be applicable to those hazards too.

'Hazard' describes a danger or a potential source of danger. A hazard may cause or contribute to an incident. So a hazard may be:

- always present, such as a sharp edge that may injure or snag a participant or equipment

- potentially present, such as water levels that might rise after rain, or guide fatigue.

'Significance' is a combination of the likelihood of the potential harm and the seriousness – how bad the harm could be if it occurs, even if it is unlikely to happen.

The Act defines 'significant hazard' as a hazard that does or could cause:

- serious harm; or
- harm due to exposure over time; or
- harm that does not usually occur or become apparent until a significant time after exposure to the hazard.

Note: A hazard may include a person's behaviour, including the effects of drugs and alcohol use, and physical or mental fatigue.

For more information on hazards and hazard management, go to:
www.supportadventure.co.nz/safety-management-plans/hazards

Serious harm

Harm is illness, injury, or both, and includes physical and mental harm. Serious harm is death, or harm of a kind defined to be serious for the purposes of the Health and Safety at Work Act 2015. The Act does not give a simple definition of serious harm, but gives examples including:

- death
- conditions that result in permanent loss of bodily function, or temporary severe loss of bodily function such as eye injuries or bone fractures
- loss of consciousness from lack of oxygen
- harm that requires hospitalisation for 48 hours or more.

Operators should also manage hazards that could result in harm other than serious harm. The most common coasteering injuries that are not serious harm are cuts and abrasions.

For the health and safety legislation definition of serious harm, go to:
www.business.govt.nz/worksafe/information-guidance/legal-framework/hse-act-1992/serious-harm-definition