

ASG

Activity Safety Guideline

Coasteering



September 2019 Version 2

SupportAdventure.co.nz

SAFETY SYSTEMS DRIVEN BY SAFETY CULTURE

Preface

This activity safety guideline (ASG) for coasteering was developed and published by Tourism Industry Aotearoa (TIA) with support from WorkSafe New Zealand. TIA involved experts from the coasteering sector and other relevant technical experts. More information about the development process can be found [here](#).

Activity safety guidelines are a recommendation from the 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 [here](#).

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. Also, at this website is information that is generic to all activities, and should be read in conjunction with this activity safety guideline. Users should periodically check the date and version number of the current online document to ensure that their printed copies are up to date.

TIA, WorkSafe, and the coasteering community 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.

Document control

Version 2

Significant changes from version 1.2	Where
Deleted generic information	Generic information is now at: www.supportadventure.co.nz – see the Risk Management and Good Practice sections, and the Mountain Biking ASG – Core Principles
Updated health and safety terminology	Throughout the document
Added a <i>technical advisor</i> definition and revised some definitions, eg <i>risk</i>	Definitions
Expanded the jumping into water section	Section 3.1

As well as these significant changes, there are small changes throughout the document.

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Other publications



This guidance contains adventure tourism and outdoor commercial sector information published on the [SupportAdventure](#) website, and public sector information published by WorkSafe New Zealand.

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 advice and support: Simon Graney; Dave Goldsworthy; Jason Holland; Mark Jones; and 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.

The 2019 review invited 17 stakeholders to provide input, many being operators registered with WorkSafe to provide adventure activities.

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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 (or client)

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.

Incident

An event that caused or could have caused harm to any person, that is, both accidents and near misses.

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** 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** 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

A chance of harm – a potential failure to ensure the health and safety of participants, staff, and others involved in an activity.

Risk assessment

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

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 controlling safety, that is, the SMP, SOPs, and all other documents that are part of an operator's safety planning, eg staff records and equipment checklists.

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 and are responsible for the safety of participants undertaking coasteering activities.

Standard operating procedures (SOPs)

Written information outlining how an operator plans to conduct a particular activity or task.

Technical advisor

A person with a high level of competence who usually holds a high-level qualification in the activity. They understand current good practice and have extensive knowledge, skills, and experience sufficient to advise an operator, including reviewing the activity policies, procedures and practices. They can be internal (a staff member) or external.

Technical expert

A person who has professional credentials such as a high level, nationally recognised qualification or, if a qualification is not available, extensive knowledge, skills, and experience. They advise auditors on whether safety plans are consistent with good practice and whether operators are working to them.

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.

1.1 Scope of this guideline

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 includes:

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 scrambling¹, swimming, and jumping into water. A rope may be used for safety, eg hand lines and confidence roping².

This guideline covers an activity 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 abseiling operators (the primary audience) and also for safety auditors and technical experts (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.

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

'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, see www.SupportAdventure.co.nz.

1.2 Purpose of this guideline & 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.

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 tyroleanes. 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.

The SupportAdventure website provides guidance on developing safety management systems.



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

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

1.3 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 experiences to school students.

The majority of coasteering operators are providing experiences that involve scrambling, swimming, and jumping into water.

The activity is not well established, and currently there are no coasteering-specific qualifications or a 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 were multiple drownings during an activity that involved a rock-climbing traverse around a headland. However, that was not coasteering in that there was no intention of entering the water. Although it did 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 qualifications specifically for coasteering, 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.

1.4 Legislation

Commercial coasteering operations are subject to the health and safety legislation, as are all workplaces. Health and safety legislation that applies to commercial coasteering operations is the Health and Safety at Work Act 2015 – *the Act* – and the Adventure Activities Regulations 2016 could also apply.

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

1.5 Using this guideline

Building safety into your SOPs

As an operator, you must have an overall safety management plan that you use to manage health and safety in everything you do. Ensure your plan contains standard operating procedures (SOPs) – or activity plans – for each activity you provide.

This guideline outlines good practice recommendations specific to coasteering. Conduct a site-specific hazard identification and risk management process, consider the recommendations in this guideline, and add the relevant procedures to your SOPs.

Before departing from the recommendations given here, seek advice from a coasteering technical advisor. Variations must be at least as good as the guidelines, and an operator needs to be able to justify why they use a different procedure from the guideline.

It is essential that, alongside site specific assessments and the use of this guideline, guides and instructors conduct dynamic hazard identification and risk management.

This guideline gives examples which are not exhaustive – think of other examples that could apply to your specific activity. The responsibility for making safe decisions remains with the operator.

Passing safety audits

The Adventure Activities Regulations require a coasteering operator to pass safety audits by an audit provider recognised by WorkSafe. Following this guideline will help operators to do this.

The [Safety Audit Standard for Adventure Activities](#) outlines the general standards or requirements that adventure activity operators must comply with to manage risks when providing adventure activities.

This ASG sets out recommended technical standards for commercial coasteering activities. It will help safety auditors assess whether an operator is complying with good practice.

The Adventure Activities Regulations 2016

Coasteering may expose the participants to risks of the kind defined in the Adventure Activities Regulations. The regulations apply to 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 injury 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 injury to participants, or participants are deliberately exposed to dangerous terrain or dangerous waters.

The regulations require operations providing these activities to undergo a safety audit and be registered. For more information, see the [SupportAdventure](#) website.

Section 2: 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 in the coasteering environment that are associated with serious injury. This section identifies good practice risk management.

The information in this section should not be considered all-inclusive as 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.

2.1 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.



2.2 Risk of being swept into the sea

Coasteering activities at sites on the coast can include the risk of people being dragged over rocks by a receding wave or 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 risk 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.

Risk 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.
- Provide appropriate clothing for the activity, eg to protect skin if knocked over by waves.

- Establishing procedures for managing unexpected changes in ocean conditions such as safe waiting areas, escape routes, and evacuation.
- 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.

2.3 Risk of rockfall

Assess, monitor, and manage the coastering 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 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
- ensuring that participants do not climb above others
- 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.

2.4 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 coastering 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.

2.5 Risk of increasing swell size and unexpected waves

Coastering 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 coastering sites 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 coastering 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.

2.6 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

Accessing a coastering site can be hazardous after rain and the trip may need to be cancelled.

On the trip, manage the risk of falling by ensuring that people stay far enough away from edges. 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 advisor or suitably qualified person:

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

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.

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 risks

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 participant's supervision levels and strategies are in line with their needs. See [section 6.1](#).
- 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 [Abseiling 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.

2.7 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 or 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: Hillary Outdoors, Great Barrier Island

Section 3: Providing Coasteering Activities

This section considers common coasteering activities and identifies significant hazards that are usually involved, and good practice for managing the risks.

The information in this section should not be considered all-inclusive. It is essential to carry out site and activity-specific risk 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.

3.1 Jumping into water



Some of the most likely coasteering activity serious 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 guide's 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
- difficult and exposed access routes
- unstable take-off areas
- hitting the take-off area or wedging a foot when doing back flips
- 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, logs, flotsam, or swimmers
- non-aerated water in landing zone causing hard landings
- dislocated shoulder on landing
- equipment impacting the jumper on landing, particularly packs and cameras
- waves in the landing zone surging a participant into rocks.

Managing the risks

Guides should:

- Check carefully for submerged hazards, eg during a neap tide and using snorkel, mask, and flippers.

- Directly control participant take-off positions if it is integral to safety, eg through the guide being attached to the rock at the top of a jump to enable hands-on guidance of the participant.
- Protect participants from falling as they access take-off areas – see [section 2.6](#).
- Assess landing zones to ensure any impact on the participant is acceptable – consider height, water depth, obstacles, horizontal distance from take-off point to the water.
- Consider entry technique for jumps where impact with the water poses a hazard. Recommended methods are:
 - Feet first, arms crossed (to protect the face and to avoid dislocating a shoulder), and leaning back, or
 - *Superman method* – on the side with an outstretched arm protecting the ear.
- Take particular care if people want to do flips, dives, or stunt jumps as they greatly increase the chances of concussion, neck and back injury, and eardrum damage:
 - ensure that the jumper will land in safe, deep water, and that the height is low enough that mis-jumps are low risk (less than two metres until they demonstrate proficiency)
 - 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.

The guide should veto jumping if the participant is unable to demonstrate safe technique or if they are particularly anxious.

- 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.
- Remove packs when jumping.



Photo: Hillary Outdoors, Great Barrier Island

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 6.1](#).

- 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.

3.2 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 risks

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, see [section 2.5](#).
- Choose swims that match participant abilities.
- Assess swims to ensure that guides can supervise and intervene as needed.
- Directly supervise difficult swim exit points.
- Minimise entrapment potential by choosing swim routes that avoid known submerged hazards.



Photo: Hillary Outdoors, Great Barrier Island

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.
- Establish guidelines when hazardous marine life is seen in the area.
- Ensure that supervision levels and strategies are in line with the group's needs – see [section 6.2](#).

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.



Photo: Skills Active

Section 4: 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.

4.1 Guide knowledge of the site and system

Use guides competent in the skills required to manage the coasteering activity. For more information, see [section 5.2](#).

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, including those that affect accessing the site
- complexity of the coasteering activity such as simple scrambling along a sheltered coastline with optional swims to moving along exposed coastlines with compulsory swims
- frequency of escape routes
- competence of the guide.

4.2 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.



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.

4.3 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 satellite texting devices, although there can be delays in sending and receiving texts.

One-way devices such as personal locator beacons or personal satellite tracking devices 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.

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 Rivers Association website www.nz-rafting.co.nz



Photo: Hillary Outdoors, Great Barrier island

Section 5: Staff

Competent staff are one of the mainstays of ensuring safety.

Using a supervision system that provides ongoing support for competent staff is critical. For more information on supervision, see [section 6.2](#).

5.1 Verifying competency

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.

For more information, contact the following: [New Zealand Mountain Guides Association \(NZMGA\)](#), [New Zealand Outdoor Instructors Association \(NZOIA\)](#), [NZ Rivers Association \(NZRA\)](#), [Skills Active Aotearoa](#), and [Surf Life Saving New Zealand \(SLNZ\)](#).

Skills not covered by qualifications

Ensure that skills or knowledge not covered by a qualification are verified by other suitable means — see the [SupportAdventure](#) website.

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.

5.2 Competency requirements

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.

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

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	<p>Has knowledge of the operator’s emergency response procedures</p> <p>Can demonstrate rescues for all identified emergency scenarios (these may vary from site to site) including:</p> <ul style="list-style-type: none"> • in-water incapacitated person • in-water and not able to access land • hypothermic person • cold water survival situations. <p>Can demonstrate specific rescue skills including:</p> <ul style="list-style-type: none"> • 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 coastering 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

Safety responsibilities	Safety functions	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

Safety responsibilities	Safety functions	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



Photo: Graham Charles, Hillary Outdoors Great Barrier Island

Section 6: Participants

This section considers the significant hazards that are usually involved and identifies good practice for managing the risks.

6.1 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.

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.

For information on managing participants with mixed abilities, see: www.supportadventure.co.nz 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 and 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.



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.



Photo: Graham Charles, Hillary Outdoors, Great Barrier Island

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. This helps ensure participants are prepared and fully understand what they are required to do.

6.2 Supervising participants

Establishing a supervision system

Develop a supervision system based on the associated risk.

Factors to consider when assessing the 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 3](#).
- industry good practice participant supervision levels.

Factors to consider when assessing the risk include:

- the hazards of the activity and the site
- the number of participants exposed to the risk of falling at any one time, including those accessing a jump site and those waiting at the top and bottom of the jump site
- the number of guides needed to adequately supervise
- the number of participants involved and over what time period
- the amount of time a guide is working in the safety role
- the complexity of the activity plan, including the equipment
- the competence of the guide
- the likelihood that participants will follow instructions
- participant safety responsibilities and competence.



Photo: Hillary Outdoors, GBI

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 3](#).

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 coastering activity and site.

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

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 establishing levels of supervision, see www.supportadventure.co.nz.

Section 7: Equipment

Use equipment according to manufacturers' 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.

7.1 Participant and guide equipment



Correctly fit equipment as per the manufacturers' 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 wetsuit³.

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.

³ Wetsuits are recommended for buoyancy, thermal properties, and protection from abrasion.

7.2 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 (usually at least 15 metres)
- a rescue knife
- a first aid kit.

General emergency equipment

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

The following items should be considered:

- site-specific extraction kit, eg slings, ropes, carabiners, prusiks
- shelter and heat sources, eg space blankets, heat packs, bothy bags, ground insulation, high-energy food, and additional thermal clothing
- fins and mask
- rescue tube
- a backboard or stretcher, ideally with 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 coastering trip and its environment.

First aid supplies

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

For suggestions for first aid contents, see www.supportadventure.co.nz.