ASG

Activity Safety Guideline

All Terrain Vehicles

May 2018 Version 2

SupportAdventure.co.nz
SAFETY SYSTEMS DRIVEN BY SAFETY CULTURE

Preface

This All Terrain Vehicle (ATV) Activity Safety Guideline is published by Tourism Industry Aotearoa (TIA) – www.tia.org.nzwww.tia.org.nz with support from WorkSafe New Zealand – https://worksafe.govt.nz

The guideline was developed in association with experts from the ATV 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 ATV 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 don't 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.

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Cover photo: Across Country Quad Bikes

Document control

Version 2

Changes from version 1.2	**Where**
Updated the sector overview	1.2: The New Zealand ATV sector
Added a note on client risks	2.2: Managing risks
Added a note on reporting notifiable events	2.5: Incident reporting and learning
Added a note on an MOU	3.4: Sharing the trip route
Clarified carrying passengers	4.6: Driving with passengers
Added a note about guide training trips	6.1: Safety responsibilities and competence requirements
Added a note on Senior Guides	6.3: Guide competence
Added a note on guide incapacitation	7.2: Informing clients about safety
Added notes on client competency	7.3: Training clients and checking competency
Added a note on acceptable helmets	8.1: Client and guide equipment
Added a note on family groups	8.2: Choosing the right ATV
Updated health and safety terms	Appendix 1 and throughout the ASG

Acknowledgements

Other publications

This guideline contains adventure tourism and outdoor commercial sector information published on the SupportAdventure website.

This guideline also contains public sector information published by WorkSafe New Zealand.

Consultation

The guideline was developed in consultation with the ATV sector and other relevant experts. The following experts comprised the original ATV Activity Safety Guideline working group and are acknowledged for their advice and support:

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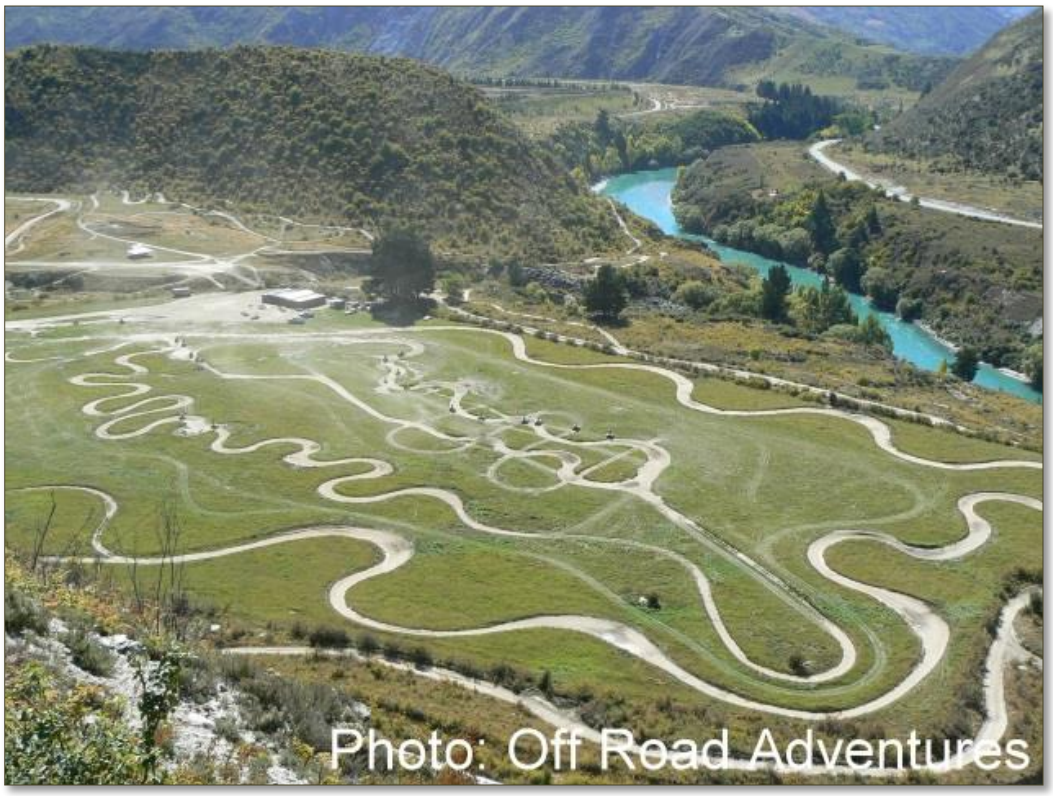
ATV Activity Safety Guideline Support Group; Maritime New Zealand; Mountain Safety Council; New Zealand Outdoor Instructors Association; New Zealand Recreation Association; Qualmark; ServiceIQ Industry Training Association; the Tourism Industry Aotearoa; Water Safety New Zealand; outdoor safety auditors; and operators and auditors who reviewed this version.



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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've usually acquired the knowledge and skills to do this through a combination of training, qualification and experience.

Client

A person (participant) who takes an active role in an adventure activity but isn't in a leadership or supervisory role.

Direct supervision

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

Good practice

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

Guide

A person who is responsible for guiding, and therefore the safety of, clients undertaking ATV activities.

Health and safety terms

See Appendix 1 for an explanation of the terms *hazard, significant hazard, reasonably practicable, harm, risk, serious risk, notifiable event,* and *notifiable injury.*

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

Operator

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

Qualified person

A person who holds a current, nationally recognised qualification.

Risk assessment

A process undertaken by a competent person to identify hazards and their associated risks, and to assess the hazards and risks according to their significance – the potential severity of impact and probability of occurrence.

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.

Sector

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

Staff

Employees, contractors, or volunteers who work for an operator and are responsible for the safety of clients undertaking ATV activities.

Standard operating procedures (SOPs)

Written guidance that provides health and safety information about a particular activity or task – such as how it should be conducted.

Technical advisor

A person who has professional credentials such as a high-level, nationally recognised qualification, or extensive knowledge, skills, and experience to assist an operator with various technical tasks, including advising and reviewing the policies, procedures, and practices relating to an activity.

They can be from within the organisation or external to it.

Section 1: Introduction

1.1: What this guideline covers

This guideline is for the commercially guided All Terrain Vehicle sector. It defines All Terrain Vehicles[1] as:

> Vehicles with four wheels or more, principally designed for off-road use, with an engine capacity exceeding 50cc, and generally with a gross weight of less than 1000kg[2]. They include vehicles such as quad bikes, Argos, and side-by-sides.

This guideline covers activities that meet this definition, whether or not they're advertised specifically as All Terrain Vehicle activities.

The ATV Activity Safety Guideline describes what ATV operators and technical experts consider to be good practice for actively managing safety in providing commercial ATV activities in New Zealand.

This guideline is written for commercial ATV 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 All Terrain Vehicle activities such as trainers and people involved with providing non-commercial All Terrain Vehicle activities.
- Activities other than those involving All Terrain Vehicles that involve similar risks, hazards, and techniques.

This guideline focuses on preventing death or other serious harm. It identifies common significant hazards and serious risks that clients, and the guides who lead them, may be exposed to during ATV trips. It makes recommendations for managing these hazards and risks.

Activities associated with taking clients to and from ATV activities are outside the scope of this guideline. Operators who provide these activities need to manage the associated 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 building a safety management system, go to: www.SupportAdventure.co.nz

1.2: The New Zealand ATV sector

Commercial ATV activities in New Zealand occur predominately in tourism operations.

1 'All Terrain Vehicles' is a term used by industry and therefore is used in this guideline. It is important to note that this name should not be taken literally as these vehicles aren't capable of traversing all terrain types. Operators are discouraged from describing vehicles as all terrain when communicating with clients.

2 Larger 4WD vehicles such as those also designed for on-road use or custom built for recreation aren't within the scope of the guideline.

Operations vary widely in terms of the terrain they cover and the style of trip offered such as sightseeing or adventure experiences. ATV tours are a popular activity, and there are currently about 40 ATV operators in New Zealand.

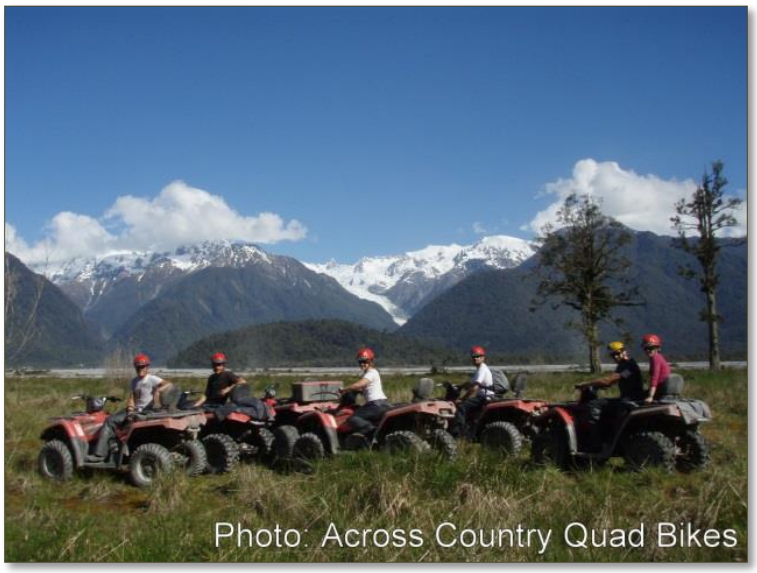


Photo: Across Country Quad Bikes

The ATV sector is well established with operators spread throughout the country. Operators have been holding biennial national safety meetings. There is no real connection between the commercial ATV sector and recreational or agricultural ATV users.

Operators often use quad bikes, with side-by-sides becoming more common as family groups increase. Also, single-seat buggies are becoming popular (Polaris ACE), being more car-like to operate, and having roll cages and harnesses.

The ATV sector worked with the ServiceIQ Industry Training Association (then called the Aviation, Travel and Tourism Industry Training Organisation) to develop qualifications in the early 2000s. These qualifications didn't receive much uptake and no longer exist.

1.3: Legislation

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

Health and safety legislation that applies to commercial ATV operations includes:

- The Health and Safety at Work Act 2015 – referred to in this guideline as *The Act*.
- The Health and Safety at Work (Adventure Activities) Regulations 2016 – referred to in this guideline as *The Adventure Activities Regulations*.
- The Safety Audit Standard for Adventure Activities 2017

The Adventure Activities Regulations

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

- The recreational or educational experience the participants have is the main purpose.
- The participants are guided, taught, or otherwise assisted to participate in the activities.
- 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.
- 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.

There are other regulations that may apply to ATV operations including vehicle registration and licensing requirements. For more information, see the New Zealand Transport Agency Factsheet 19 www.nzta.govt.nz/resources/factsheets/19 (currently under review).1.4: Purpose of this guideline and the SupportAdventure website

1.4: Purpose of this guideline

This ATV Activity Safety Guideline (referred to as *the guideline*) aims to provide practical recommendations for commercial ATV operators in New Zealand to actively manage the safety of the ATV activities they provide.

The SupportAdventure website (www.SupportAdventure.co.nz) provides practical 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 aren't 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.

1.5: 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's 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're not exhaustive – think of other examples that could apply to your specific activity.

It's 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 an ATV 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.

1.6: Use this guideline to help you pass safety audits

The Adventure Activities Regulations require ATV 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:

- 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 ATV activities and will help operators and safety auditors assess whether SOPs conform to good practice.

Section 2: Risk Management Process

The risk management process is a key part of an overall safety management plan. The steps involved enable risk management to be built into standard operating procedures (SOPs).

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

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

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 users.
- Reviewing standard operating procedures.
- Reviewing past incident reports and lessons learned
- Studying maps and photographs where relevant.
- Studying tide charts and swell patterns where relevant.

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 risks

Manage risks according to the *eliminate, minimise* hierarchy of action. Due to the nature of ATV trips, many risks can't be eliminated and can only be minimised.

Risk management should reduce the risk of harm to acceptable levels, depending on the nature of the activity, client ability[3], and on current good practice.

Managing risks includes monitoring them for changes in their seriousness. A higher level of management, such as moving from minimising to eliminating, may be necessary if a risk increases in seriousness. For example, low client ability levels might mean that a trip needs to follow a different route or that the trip should no longer go ahead.

[3] Client ability includes the ability to follow instructions as well as technical ability. This may be a greater risk than the risks arising from the terrain hazards.

2.3: Managing the drugs and alcohol-related risk

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's being implemented.

To see the WorkSafe guidance document on managing the 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 risks.

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

For more information on staff competence, see section 6.

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 from happening again. Act on anything you learn.

Incident-reporting systems need to be used effectively. Induction and on-going 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 incident reporting, go to: www.supportadventure.co.nz/safety-management-plans/incidents

Ensure that notifiable events are reported to WorkSafe. See Appendix 1 for a definition note.

Section 3: The Trip Environment

The most likely serious ATV incidents are associated with roll-overs or crashes. ATV trip environment is a source of contributing factors to these incidents. This section identifies good practice risk management strategies for dealing with eight key aspects of the ATV trip environment:

The information in this section shouldn't be considered all-inclusive. It's essential to carry out site-specific and activity-specific risk management processes, and for guides to conduct ongoing dynamic hazard identification, assessment, and management.

Note: The most likely contributing factor to serious ATV incidents is rider error. For more information on this and other client-based risks, see section 7. The other significant factors are activity-based hazards and using the incorrect ATV for the client or activity. For more information on ATV choice, see section 8.2; for information on activity-based hazards, see section 4.

3.1: How trips are rated for difficulty

The New Zealand ATV sector doesn't currently use a consistent national rating system, although trips are often defined in terms of the challenge presented by the terrain.

Safety management strategies should include ways to communicate to clients the expected difficulty of a trip and associated risk involved. Factors to consider when communicating trip difficulty include:

- Terrain hazards and their prevalence on the trip
- The requirement for client technical driving ability
- How easy it is to supervise clients
- Accessibility of external emergency support

For more information on ensuring that the trip is suited to the clients, see section 7.1.

3.2: Terrain hazards

Rough or uneven terrain, slopes and different surface types such as clay, water, mud, sand or snow/ice, are all commonly associated with ATV vehicle serious injuries. This guideline addresses these hazards in section 4.

3.3: Changes to hazards on a trip

Significant environmental events such as washouts, slips, and tree or rock falls may affect known existing hazards on an ATV trip or create new hazards. Smaller environmental events such as rain causing a change from dry to wet surfaces may also change known existing hazards. Human factors may also cause changes to hazards, such as trail maintenance or forestry logging

Ensure that systems are in place to check and maintain tracks after significant environmental events. Systems to consider include guides driving routes before the next guided trip, or guides driving ahead of clients to scout for hazards.

Ensure that land owners, managers or other people who may affect hazards on the trip know of the importance of communicating relevant hazard information to the operator, and have the information they need to do so, such as telephone numbers.

Record any changes to hazards, identify those that are significant, and notify relevant staff and other users of the area.

3.4: Sharing the trip route

ATV trips are often on routes used by other users, such as farmers, hunters, and recreationalists. This introduces the hazard of unexpected encounters and the risk of collisions.

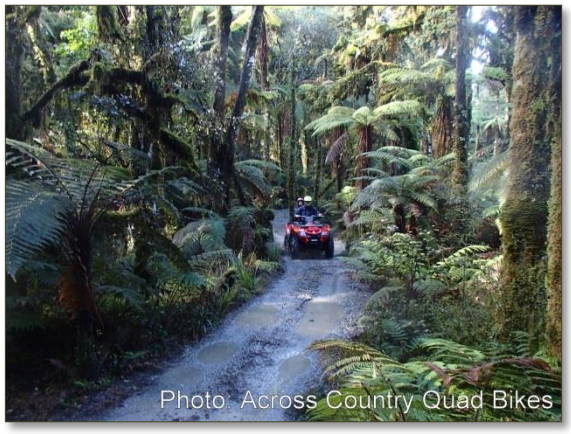


Photo: Across Country Quad Bikes

Ensure you have a memorandum of understanding with landowners and, if practicable, with other users.

Ensure that known users of the area are aware of the ATV operation, including its normal trip times and routes, and know to inform the operator if they're going to be using the trails at the same time.

Signage stating that commercial trips use the area is recommended for trail heads or junctions on routes where other users are identified as a significant hazard.

3.5: The difficulty of getting assistance

The limited access or communication options of some locations can make emergency evacuation difficult and lead to lengthy waits for external emergency support.

Develop strategies for managing the difficulty of getting assistance based on the associated risk. See section 9.2 for information on contingencies for limited access to emergency support.

3.6: The risks from limited visibility

Environmental factors such as sun-strike, dust, fog, or darkness limit rider visibility and contribute to the inability to avoid a hazard, losing control, or the inability of guides to adequately supervise the group. Ensure that guides know when to expect these hazards, and how to manage them.

Options for hazard management include restricting group speed, wearing sunglasses, and increasing or decreasing the distance between riders. Ensure that ATVs used on night trips have sufficient lighting.

3.7: The risk from moving or deep water

Many ATV trips involve crossing rivers or driving in river beds. If the water is moving or deep, people can be exposed to the risk of drowning or crush injuries.

Ensure that guides are well aware of safe water levels and speeds and the causes of rising water for the waterways affecting their trip. Ensure they know how to monitor, plan for, and react to rising water levels.

To do these things, they should know:

- Maximum safe water levels, water level indicators, and methods for monitoring rising water.
- Local catchment areas and any associated dangerous weather patterns or dam and slide hazards.
- Likely water rising rates for particular weather patterns and catchment surface conditions.
- The best weather forecasting service available and how to use it.

- How and when to cancel a trip due to water-level concerns.
- Procedures for dealing with high water or rising water levels, such as safe waiting areas, alternative route choices, and evacuation procedures.
- Landslide or avalanche hazards that could affect the catchment – how to monitor these and any associated activity cancellation parameters.

3.8: The risk of allergic reactions to insect stings

ATV operations are often run in environments where wasps and bees are present.

Strategies for managing exposure of people to wasp or bee stings should be based on the associated level of risk.

Options include:

- Ensure guides are aware of the hazard, know the location of hives, and avoid disturbing them.
- Ask clients to let guides know if they are allergic to bees or wasps – use this information to inform trip and route choice.
- Consider carrying EpiPen or adrenaline – train guides in their use.

Section 4: Activities

This section assumes the ATVs are driven by clients and looks at ATV activities. It identifies the significant hazards that are usually involved and good practice for managing the risks from those hazards.

For the purposes of this guideline, ATV activities are defined predominately on the basis of terrain. Terrain hazards such as rough or uneven surfaces, slopes, and variable surfaces often contribute to serious injuries. The other ATV activity identified as having a distinct set of hazards and management strategies is carrying passengers.

The information in this section isn't all-inclusive. It's essential to carry out site-specific and activity-specific hazard management processes, and for guides to conduct ongoing dynamic hazard identification, assessment, and management.

Note: The most likely contributing factor to serious incidents is rider error. For more information on this and other client -based risks, see section 7. The other most significant factor is using an incorrect ATV for the client or activity. For more information on ATV choice, see section 8.2 Environmental factors also contribute to serious injuries – see section 3.

4.1: General ATV driving

All ATV activities involve the risk of roll-overs and crashes. The hazards and management strategies in this section apply to all types of ATV activities. See sections 4.2-–4.6 for information on activities in specific terrain types or involving passengers.

Identifying the hazards

Factors to consider when identifying hazards include:

- Insufficient supervision of clients.
- Client ability – including agility and understanding of their safety responsibilities when driving.
- Incorrect driving techniques including steering and use of throttle, gears, or brakes.
- Incorrect body position – destabilising the ATV and exposing hands or feet to injury
- Using driving techniques other than those recommended by the guides.
- Clients not driving within their ability, including showing off.
- Thoughtlessly following others – not focusing on the terrain and their own ATV.
- Not complying with the supervision system, such as driving too fast or not maintaining position or spacing.
- Going too fast on flat and easy ground.
- Rough, uneven, or slippery surfaces.
- Obstacles such as trees, rocks, branches, and sudden drop-offs such as banks or cliff edges.
- Transitioning between sealed and unsealed surfaces – surface change affecting tyre grip and ATV steering and balance.
- Driving in the dark without sufficient lighting.
- Fatigue, causing lack of concentration or ability to control the ATV.

Managing the risks

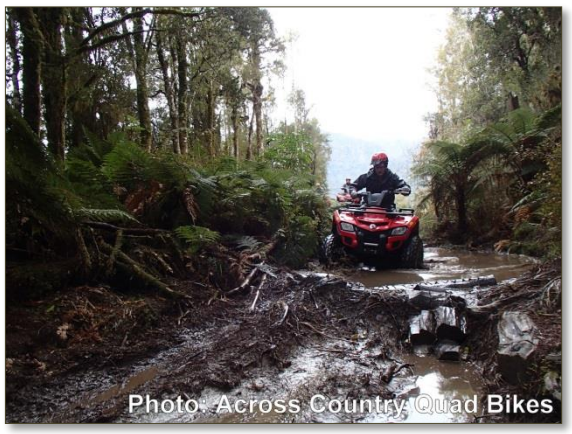
Include strategies for managing risks in technical systems, client management techniques, and client briefings.

Technical systems

Ensure tracks suit the type of ATV, are matched with the advertised activities of the trip, and suit the expected ability of the clients.

Design tracks to avoid unnecessary exposure of clients to sudden drop-offs that present a significant hazard. Where exposure is unavoidable, verbally warn clients and ensure they're capable of avoiding the hazard. If there is any doubt as to their capability, ensure they don't drive the ATV. Consider using signage or visual barriers.

Ensure that ATVs used for night driving are equipped with sufficient lighting.



Client management

It's important to:

- Train and assess clients in general and technical competencies, and supervise clients as per the recommendations in section 7.
- Ensure seatbelts are worn if the ATVs have them.
- Ensure clients drive within their ability:
  - Consider letting the more able and confident clients drive ahead or asking the less confident to set the pace.
  - Manage speed to suit the terrain, the ATV, and abilities: options include selecting different sections of track for different clients, placing guides at the front of the group, and using clearly communicated stopping points such as a gate.
- Monitor and manage clients for:
  - Fatigue: take breaks and offer food or drinks as required.
  - Signs of peer pressure: position people within the group to minimise this, and give clients the option not to participate or to be a passenger (see section 4.6 for information on carrying passengers).
- In groups where clients are showing off, not following instructions, or not taking responsibility for safe driving of their ATV, consider separating problem clients and increasing supervision levels.
- Ensure that group spacing enables safe navigation of terrain and is suited to client abilities and environmental factors such as dust or sun-strike.

Client briefing

Brief and train clients as per the recommendations in section 7 and the following points:

- Stop and wait for the guide if they are unsure on anything.

- ATVs with handlebar steering – use a push and pull motion.
- ATVs with steering wheels – use the steering wheel as they would that in a car.
- If transitioning between paved and unpaved surfaces, ensure clients are aware of the hazard and instruct them to go slowly.
- On quad bikes, maintain a body position centred and forward on the seat, keep both hands on the handle bars, keep both feet on the foot pegs, and don't put feet between the pegs and the ground.

4.2: Driving on steep terrain

The most significant risk when driving on steep terrain is roll-over associated with shifts in the ATV's centre of gravity.

Note: Driving on steep terrain refers to activities where ATVs are being driven up or down steep ground and doesn't include using tracks that gradually zigzag.

Identifying the hazards

Factors to consider when identifying hazards include:

- Lack of or incorrect active driving – destabilising the ATV.
- Inappropriate ATV choice for the terrain – including 4WD or 2WD options.
- Driving too fast downhill.
- Traversing side slopes.
- Driving too close to other ATVs.

Managing the hazards

Include strategies for managing hazards in technical systems, client management techniques, and client briefings.

Technical systems

Ensure ATVs have the stability required for the steepness of terrain – consider manufacturers' recommendations.

Ensure that tracks don't include traversing side slopes.

Client management

Ensure there is sufficient spacing between clients so that they do not interfere with each other's driving or expose each other to impact from their ATVs in the case of an incident.

Ensure steep terrain activities are within the ability of the clients. Traversing is a particularly challenging skill, use progressions, and demonstrations.

Client briefing

Remind clients of the risk of roll-overs and the hazard of incorrect body position destabilising their ATV. Base this on the associated risk for the particular ATV and steepness of terrain.

Quad bikes – instruct clients in body positions and active driving techniques including remaining seated with weight forward for driving uphill and seated with weight to the uphill side for traversing, emphasise the importance of not standing up.

ATVs with gears – instruct clients on which gears to use before they drive on steep terrain, eg when to engage low ratio.

ATVs with engine braking – instruct clients on how and when to use engine braking.

4.3: Driving in moving or deep water

Many ATV trips include crossing rivers or driving in river beds. This can expose clients to the risk of drowning or crush injuries.

Identifying the hazards

Factors to consider when identifying hazards for driving ATVs in moving water include:

- Entrapment hazards in the run-out – such as trees or branches.
- Water that is dangerously high, swift, or forming entrapment features.
- ATV losing traction.
- Clients unable to swim or manoeuvre in the water – lack of ability or hampered by clothing.

Managing the hazards

Include strategies for managing hazards in technical systems, client management techniques, and client briefings.

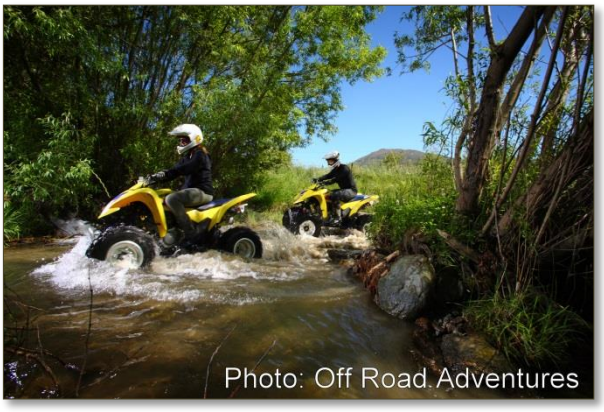
Technical systems

Ensure that guides know how to recognise, monitor, and react to unsafe river conditions – follow the recommendations in section 3.

Choose moving water activities that suit the type of ATV and client abilities.

Ensure that the runout is safe considering the associated risk of clients swimming.

Ensure client equipment is suited to the associated risk of them needing to swim or manoeuvre in moving water – consider avoiding heavy or bulky clothing.



Client management

Where there is a risk of ATVs losing traction in the waterway, ensure a guide is stationed to manage the activity – don't leave clients unattended.

Ensure client water confidence and ability is suited to the activity.

Client briefing

Ensure that client briefings are based on the associated risk of the activity.

Points to consider include instructing clients on:

- How to avoid losing traction – don't spin the wheels.
- What to do if they lose traction – techniques to regain traction and for clearing the ATV on the upstream side.

- What to do if they become separated from the ATV – moving water swimming techniques and where to swim to.

4.4: Driving on ocean beaches

Driving on ocean beaches can expose people to the risk of drowning.

Identifying the hazards

Factors to consider when identifying hazards for ATV driving on ocean beaches include:

- High tides – water too deep for the ATV.
- Waves and currents – people being swept off the ATV into difficult swimming conditions.
- Variable firmness of sand – abrupt change in the ATV speed.
- Camber of the beach – the ATV drifting towards the ocean and destabilising.
- Debris or wildlife in the line of travel – causing reactive driving or a collision.

Managing the hazards

Include strategies for managing hazards in technical systems, client management techniques, and client briefings.

Technical systems

Manage the hazards of high tides, waves, and currents, and base the management strategies on the associated risk.

Options to consider when establishing safe operational parameters include:

- No-go times either side of high tide – be particularly aware of being caught out by an incoming tide.
- Maximum swell heights and unsafe swell directions.
- Guidance on what is likely to cause significant changes to the beach itself and how to manage this.
- Choose routes where the beach camber won't affect the ATVs' stability.

Client management

Manage group speed and route choice to suit the firmness of the sand – where variable firmness of sand is an issue consider positioning a guide in the front.

Client briefing

When the route involves variable firmness of sand – instruct clients in the dangers of variable firmness of sand and on which areas of the beach and what types of sand to avoid.

When the route involves soft sand – instruct clients to avoid tight turns.

Instruct clients to stay out of the wash of the waves and to drive inland (to higher ground) if they see a freak wave.

When the beach camber draws clients towards the sea – instruct clients to be aware of this and to ensure they stay on track.

Ensure clients are aware of the likelihood of debris, wildlife, and other users on their route of travel, and of the importance of managing their speed to ensure they don't need to steer reactively or have a collision.

4.5: Driving in snow or ice

Identifying the hazards

Factors to consider when identifying hazards for driving in winter conditions include:

- Decreased surface traction affecting steering and braking.
- Increased time on route – snow and ice make for a much slower trip.
- Temperature of clients – hypothermia.
- Poor visibility – whiteouts, fog, or early darkness.
- Snow – variability of depth leading to abrupt change in speed.
- Snow – difficulty identifying the edge of the route.
- Ice – variable thickness affecting its ability to support the ATV.

Managing the hazards

Include strategies for managing hazards in technical systems, client management techniques, and client briefings.

Technical systems

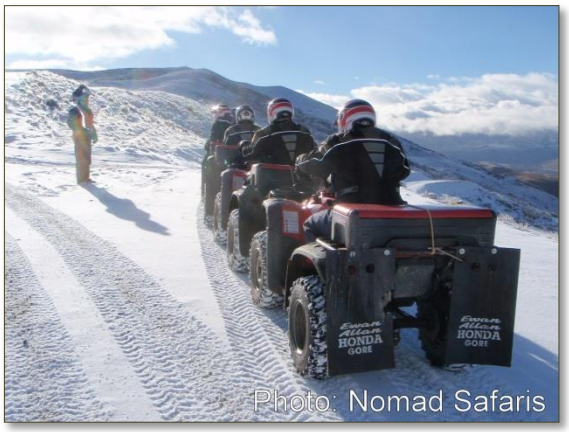
Consider the likely time required to cover distance when setting route length, departure times, and choosing emergency equipment such as heat sources, food, and extra warm clothing.

Ensure trip return and overdue times enables emergency procedures to occur within planned time frames – consider any daylight requirements for emergency procedures.

Check weather and visibility conditions – ensure visibility is sufficient for ATV driving and group management.

Check the thickness of hazardous ice crossings before driving over them.

Ensure guides are aware of the increased risk and hazards associated with ice and snow on a route.



Group management

Increase supervision levels when a route involves ice or snow. This includes options such as using additional staff, changing the position of guides within the trip, and regrouping the trip more regularly.

Ensure the group is equipped with sufficiently warm clothing.

Set speeds low enough to assist clients with safe steering and braking.

Client briefing

Ensure that clients are aware that snow and ice make the ATVs harder to manage and there is increased responsibility on them to work within the supervision system and follow guides' instructions.

Instruct clients on the importance of driving at low speeds as set by the guide.

4.6: Driving with passengers

The carriage of passengers on any ATV can increase the risk of vehicle roll-over, and particularly for quad bikes. Give careful consideration to teaching and monitoring clients, the choice of ATV, and the terrain.

> Passengers must be carried only on ATVs that have manufacturer's instructions stating that the ATV is designed for this purpose, or an engineer's certificate stating that an ATV can safely carry a passenger.
>
> The photos in this guideline showing passengers are all of ATVs designed for that purpose.

Identifying the hazards

Factors to consider when identifying hazards for driving with a passenger include:

- The stability of the ATV.
- Client's ability – driving and following instructions.
- Changing in handling of the ATV – traction, steering, and braking.
- Overloading.
- The passenger's hands or feet being exposed to hazards.
- The passenger not having sufficient and suitable space on the ATV.
- Quads – restricted ability to drive actively.

Managing the hazards

Include strategies for managing hazards in technical systems, client management techniques, and client briefings.

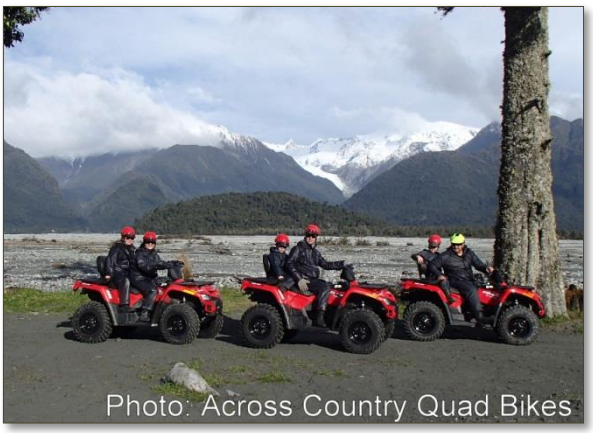


Photo: Across Country Quad Bikes

Technical systems

Use ATVs within manufacturer's instructions[4], such as side-by sides, Argos, or quad bikes designed for carrying passengers.

Ensure the weight is still within the maximum weight specified in the manufacturer's recommendations.

Ensure there is enough space for the passenger to sit and for the rider to safely control the ATV.

[4] If ATVs are used outside the manufacturers' instructions, any WorkSafe compliance assessment will require, or investigation would consider, evidence from an engineer that the use doesn't compromise safety.

Group management

Ensure the rider has the ability to drive the ATV while carrying a passenger – conduct training and competence checks as in section 7.

Ensure the rider and passenger's relative size doesn't destabilise the ATV.

Ensure the rider and passenger's size and physical ability enables the required level of active driving for the trip.

Client briefing

Ensure the rider is aware of the increased responsibility, and both rider and passenger are aware of any increased risk.

Ensure the passenger's feet are safely positioned away from both moving parts of the machine and the ground, and that they don't interfere with the rider's ability to control the ATV, such as in the footwell.

Quad bikes – brief both the rider and passenger on the importance of weight distribution and maintaining the stability of the ATV. Ensure passengers hold on inside the frame and not behind them.

Section 5: Trip Management

Trip management includes ensuring each trip is staffed and monitored effectively and that the most practicable communications systems are in place.

5.1: Guide knowledge of the trip

Ensure that guides are familiar with the hazards of the trip and with the operator's standard operating procedures. The number of trips and amount of training this requires will vary – see section 6.1.

Factors to consider include:

- The technical difficulty and the specific hazards associated with the trip.
- The competence of the guide.
- The trip familiarity of any other guides working on the trip.
- The ability of clients on the trip, such as driving ability and understanding of the safety responsibilities when driving an ATV.

5.2: Trip monitoring

Monitor trip safety with a suitable backup person who's not on the trip, and with a suitable person on the trip itself.

Backup monitoring

The person providing backup monitoring is responsible for initiating the emergency response procedures in the operator's safety management plan. They shouldn't be on the trip and should be as contactable as is practicable while the trip is underway.

On-trip monitoring

Ensure every trip has a guide who's responsible for monitoring general trip safety and ensuring the trip follows the operator's standard operating procedures.

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

Note: This doesn't remove the responsibility for each individual guide to manage the safety of clients within their group.

5.3: Communication systems

Communication systems need to cover communication between those on the trip and those monitoring the trip or other external emergency support and, where relevant, between guides on the trip itself.

Communicating with external support

Ensure each trip has a communication system that is the most effective option practicable and, ideally, two-way. If using devices that rely on coverage, ensure that guides and personnel monitoring the trip are aware of coverage and non-coverage areas.

Examples of communication systems include devices that rely on coverage such as a cellular phone, radio, satellite phone, or two-way texting device.

Where reception is not available or unreliable, communication systems may include:

- Access to nearby landlines.
- Scheduled meetings with other operators or backup personnel.
- One-way devices such as personal locator beacons.

Limited communication options can affect access to emergency support. See section 9.2 for information on contingencies for limited access to external emergency support.

Communicating between guides on the trip

Trips with a large number of clients may mean that guides are spread out and can't easily communicate with each other.

Strategies for managing limited communication between guides on a trip should be based on the associated risk. Options include radios and hand signals.

Section 6: Staff

Using competent staff is one of the mainstays of ensuring safety. This section looks at key factors to consider when staffing your operation.

6.1: Safety responsibilities and competence requirements

Ensure the safety responsibilities and competence requirements of each job within the operation are correctly identified. These jobs should include operations management, client screening and supervisory roles. Identify the skills and knowledge required to meet these responsibilities.

Don't underestimate a guide's training needs – they often require as much as 10 to 30 trips under supervision before they learn to 'read' a client.

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

- Levels of experience and judgement.
- Personal technical skills, including equipment knowledge
- Risk management, group management, and leadership skills.
- Ability to operate within the operation's standard operating procedures.
- Familiarity with and understanding of the operational environment.
- Ability to communicate safety requirements and directions clearly to clients.
- Rescue and emergency management skills including first aid[5].

6.2: Verifying competence

It's 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 aren't covered by qualifications.

Using qualifications

Operators need to ensure they know which skills and knowledge a qualification actually measures and then check these against those required for the job.

Any skills or knowledge not covered by the qualification need to be verified by other suitable means.

Verifying skills not covered by qualifications

Verify competence in skills not covered by qualifications using a measure that suits the degree of safety responsibility associated with the skills. Document competence verification processes and results.

Use a suitable person to verify competence. Ensure this person has a qualification to do so or is 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.

[5] 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 trips they will work.

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

Establishing equivalency between qualifications

When establishing equivalency of one qualification with another (or parts of another), an operator should contact the benchmark qualification provider and enquire as to the process they recommend.

Qualifications currently under review

Qualifications on the New Zealand Qualifications Authority (NZQA) Framework are being reviewed. Any results of this review that affect options for ATV guide competence verification will be included in this guideline as they become available.

For more information on this review, go to www.skillsactive.org.nz

6.3: Guide competence

There is currently no ATV guiding qualification in New Zealand. There are qualifications designed for using ATVs on farms but these aren't suited for verifying competency for guiding ATV trips.

This section identifies safety related responsibilities and competency recommendations for people guiding ATV trips, and for those training and assessing guides.

For the purposes of this guideline the areas of ATV guide responsibilities have been separated into the following roles:

- Guide
- Perform Rescues
- Senior Guide – solo guide
- Senior Guide – trips with multiple guides
- Guide Trainer
- Guide Assessor

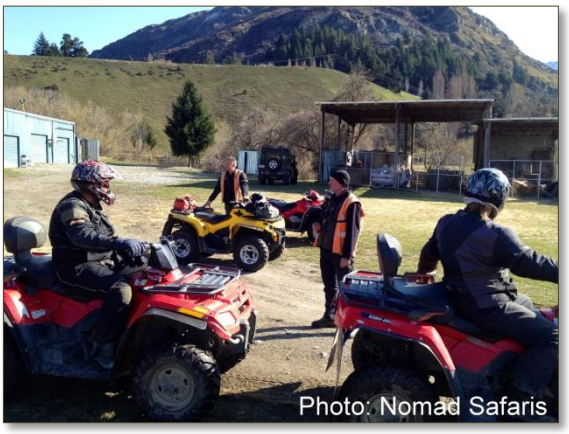


Photo: Nomad Safaris

Ensure that staff with corresponding safety responsibilities have their competence verified in the recommended safety competencies.

Ensure that every trip has at least one guide verified as competent in the *Perform Rescues* competencies.

A *Guide* will need broad experience to meet the competencies required of a *Senior Guide*, which will require working on numerous trips with different conditions.

Note: This section doesn't address broader safety related roles such as operations manager, or other operation-specific safety responsibilities. Ensure that these are identified and staff are competent as recommended in sections 6.1–6.3.

Guide

Purpose: To guide clients when supervised by a Senior Guide

Safety responsibilities	Safety functions	Safety competencies
Guide clients on trips	Train and assess clients to drive ATVs Guide, supervise, and monitor clients	Can demonstrate driving skills sufficient to apply their role within the supervisory system Can apply a process to teach and assess driving skills Can apply their role within the trip's standard operating procedures Can apply a process of making suitable route choices considering client abilities and expectations Can demonstrate good situational awareness and visual scanning skills Can identify and correct dangerous driving technique and behaviour
Ensure the equipment on the ATV trip is used correctly and is safe for use	Allocate an ATV and safety equipment to clients Allocate an ATV and safety equipment to clients Conduct pre-use equipment checks and continually monitor equipment throughout the trip	Conduct pre-use equipment checks and continually monitor equipment throughout the trip Has knowledge of correct parameters for use of the operation's safety equipment including ATVs and helmets Can identify and manage dangerous equipment via replacement or isolation or repair

Role: Perform Rescues

Purpose: To perform the practical on-trip aspects of rescues for all identified emergency scenarios.

Safety responsibilities	Safety functions	Safety competencies
Ensure there is always at least one staff member on the trip with these competencies		
Resolving emergency scenarios in the field	Perform the practical aspects of rescues for all identified emergency scenarios	Can demonstrate the practical skills to resolve identified on-trip emergency scenarios

Role: Senior Guide

Purpose: To guide clients on ATV trips as a sole guide

Safety responsibilities	Safety functions	Safety competencies
This role may only be held by a guide who has the Perform Rescue competencies.		
Manage the application of the trip's standard operational procedures Manage emergency scenarios in the field	Apply and oversee the trip's standard operating procedures Manage identified emergency scenarios in the field	Can apply and oversee the trip's standard operating procedures Can apply a process to manage identified emergency scenarios in the field Has strong communication skills

Role: Senior Guide – trips with multiple guides

Purpose: To manage the in-field aspects of a trip with multiple guides

Safety responsibilities	Safety functions	Safety competencies
This role may only be held by a Senior Guide		
Supervise staff	Delegate tasks to staff Monitor staff	Can demonstrate knowledge of the application of guide roles within the trip's standard operating procedures Can identify and correct dangerous guiding techniques and guide behaviour
Manage the application of the facility's supervision system	Apply and oversee the facility's supervision system	Can apply and oversee the facility's supervision system

Role: Guide Trainer

Purpose: To train staff for safety responsible roles

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

Role: Guide Assessor

Purpose: To assess staff competence in safety responsible roles

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're assessing Can assess competence and provide feedback

6.4: Using assistant guides

An assistant guide is responsible for managing some tasks within the guide role, but not all. Skills required will vary depending on the tasks to be managed.

When using assistant guides ensure that:

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

6.5: Identifying and managing unsafe staff

Do not permit a staff member to guide or undertake other safety-related tasks if they're impaired and may be a hazard to themselves or to any person on the trip. 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 management strategies suit the significance of the hazard and are outlined in the staff management aspects of the operator's safety management system. The Adventure Activities Regulations require that drug and alcohol hazards are specifically addressed through an explicit drugs and alcohol policy.

Initial hazard management for dealing with unsafe staff is to removing the person from the role requiring performance of safety tasks.

See also section 7.1 for information on managing unsafe clients.

To see the WorkSafe guidance document on managing the drugs and alcohol-related risk, 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: Clients

Rider error is the most common factor associated with roll overs or crashes. Safety management strategies should focus on ensuring that clients are suited to the trip they're on, enabling them to drive the ATV and manage the hazards of the trip. They must understand the risks associated with ATV driving and the responsibility this places on them.

This section identifies good practice for key areas of client safety management.

Note: The other most likely contributing factors to serious injuries are activity-based hazards and using the incorrect ATV for the client or activity. For more information, see section 4 and section 8. Environmental factors also contribute to serious injuries, see section 3.

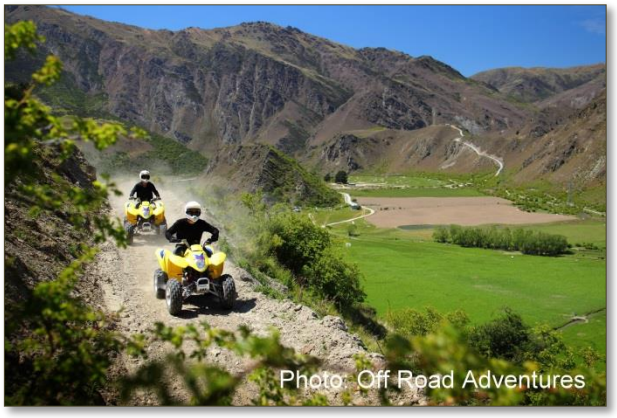
7.1: Ensuring clients are suited to the trip

ATV trips involve clients driving under indirect supervision. Assess clients to check that they're suited to participate in the ATV trip and its particular activities. This should happen before the trip begins and be ongoing during the trip itself.

Assessing clients

Use information gathered while assessing clients to inform trip options, client supervision levels, and activity choice within the trip.

Clearly identify what to assess in the operator's safety management plan. Staff other than guides, such as front-of-house staff or riders, may be involved in assessing clients. Client assessment should be consistent across staff and should reflect the requirements of each trip.



Factors to assess include:

- Size and physical ability – a client needs to be of a size that enables them to control the bike, physically able to drive and to drive actively as required to manage the hazards on the trip.
- Psychological factors such as the understanding of safety responsibilities of driving an ATV, and confidence on the ATV as suited to their abilities – both over and under confidence can be hazardous. It's common for clients to feel peer pressure to participate in activities – ensure that guides consider this when assessing clients.
- Medical issues, particularly pre-existing injuries and medical conditions that may affect on-bike agility or may be exacerbated by driving the ATV.
- The technical skills required for the trip or a particular activity. For more information on training and checking clients in technical skills, see section 7.

Age and weight restrictions

There are no overarching age or weight recommendations for commercial ATV guided trips in New Zealand. However, there are often manufacturer's recommendations for particular ATVs. There are

also ATVs designed for smaller people, such as ATVs under 90cc. Ensure the ATV is suited to the rider. Establish size and minimum age guidance for each trip.

Factors to consider include:

- Manufacturer's recommendations.
- The size, power, stability and manoeuvrability of the ATV.
- The difficulty of negotiating the terrain on the trip.
- Activities within the trip and their significant hazards.
- Whether the client fits the safety equipment.
- The ability to access external emergency support.
- Supervision levels.
- Experience and skill of guides.

Identifying and managing unsafe clients

Don't permit a person to participate in an ATV trip if they're in such a state of impairment that they may be a hazard to themselves or to any person on the trip. Impairment could be due to factors such as alcohol, drugs, or fatigue.

Identify as a hazard any client who's unable to perform safety procedures as outlined in the safety instructions, or who's unlikely to follow instructions or doesn't appreciate the safety responsibilities of driving an ATV.

Management strategies should suit the associated level of risk and include directing the client towards a lower risk activity, increasing supervision levels, such as putting them directly behind the guide or removing them from the trip.

See also section 6.5 for information on managing unsafe staff.

7.2: Informing clients about safety

Managing safety is more effective if clients are well informed.

Client perception of the risks associated with ATV driving is often much lower than the reality, and this can impact on client behaviour and contribute to serious injuries.

This section looks at the key aspects of informing clients about safety:

- Delivering safety information and checking for understanding.
- Pre-trip risk disclosure.
- Informing clients how to participate safely.
- Delivering safety information for specific activities or hazards.

Delivering safety information and checking for understanding

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

Note: recommendations for checking competence in technical skills, such as how to drive the ATV, are covered below under **Training clients and checking competency**.

Pre-trip risk disclosure

Client perception of the risk of ATV activities is often much lower than the real risk. Ensure that before setting off on a trip every client receives the following information:

- ATV driving is an adventure activity involving risk of serious injury or death, and crashes and roll-overs are the two most likely causes. The commercial ATV operator can't guarantee the client's safety.
- The trip is mentally and physically demanding and requires the client to be comfortable and competent with driving an ATV under indirect supervision, including over uneven and possibly rough terrain (adjust these points to describe the terrain on the trip and trip activities).
- It's important that the client takes responsibility for the safe driving of their ATV, follows the guide's instructions, drives within their abilities at all times, and understands that this is critical to their safety and that of the group.

Mention specific significant hazards that can't be avoided or that place extra responsibility on the client. This includes informing clients if communicating with external emergency support is difficult, and what to do if the guide is incapacitated.

Ensure that clients have the opportunity to decline the trip once they've heard and understood the risk disclosure.

Informing clients on how to participate safely

Before the trip begins, instruct and train clients in general safety information and on technical information for controlling their ATV. Ensure the points covered are suited to the clients and the hazards and challenges of the trip.

General factors to cover include:

- Awareness of and warnings about the hazards of the trip – emphasise rider error, speed, and any particular terrain hazards.
- Awareness of their responsibilities as the rider of their ATV – emphasise that they will be under indirect supervision and will be controlling their own ATV.
- The importance of listening to the guide and following their instructions.
- The importance of not destabilising or crashing the ATV – drive within their ability and use the techniques they're instructed to use.
- The supervision system and its importance – for recommendations on supervision systems, see section 7.4.
- Any relevant communication systems such as the Go and Stop signal.
- Group emergency procedures such as stopping their ATV, staying where they are, and waiting for instructions from the guide.

Technical points to cover should be specific to the type of ATV in use and include:

- How to start and turn off the ATV.
- General body position.
- Use of brakes including when to use which brakes – stress the importance of not using the throttle and brake at the same time, and that throttle will override the brake.
- Use of the throttle – particularly note the hand position to ensure that the brake and throttle aren't used at the same time.
- Use of gears.

- Steering including cornering, steering through specific terrain such as ruts, sand and mud if relevant – emphasise that turning to look at something will affect steering.
- Trips involving active driving – stress the importance of this for maintaining bike stability and stopping rollovers.
- Any other ATV specific points such as engine braking.

For ATV specific recommendations for particular activities, see section 4.

Delivering safety information for specific activities or hazards during the trip

For parts of the trip involving a significant hazard, or requiring technical manoeuvring to negotiate, inform clients of:

- The hazard and its dangers.
- Options for avoiding the hazard such as alternative routes or not driving their ATV (guide would drive).
- The techniques required to negotiate the hazard or participate in the activity – for guidance on points to cover for specific activities, see section 4.
- Applicable emergency procedures or self-rescue techniques such as clearing the machine.

7.3: Training clients and checking competency

Clients often perceive that they're more skilled at driving than they actually are, or that they have a different and better way to drive the ATV. This can be a significant hazard.

Training and assessing clients

Train clients and assess that they're competent to safely participate in the trip. Use a closely supervised training area that, ideally, reflects the terrain of the trip and take the time in this area that is necessary to ensure that the clients can drive safely.

Ensure training and assessment includes the technical skills and safety information listed in the above section on informing clients about safety.

Don't allow clients to drive an ATV on the trip if they've failed to demonstrate competence in the training area or haven't shown an understanding of their safety responsibilities. Competence may be demonstrated in set ways, eg steering straight across an incline and following instructions.

Ensure that guides used to train and assess the competence of clients are verified as competent to do so.

Using demonstrations and activity progressions

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

7.4: Supervising clients

Clients self-drive their allocated ATV and are therefore indirectly supervised.

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

Establishing a supervision system

Establish a supervision system that ensures clients are suitably supervised and enables guides to:

- Know where clients are at all times.
- Monitor and manage client technical competence.
- Control group spacing and speed.
- Manage specific technical activities, such as river crossings and steep terrain.
- Observe and manage individual client and overall group dynamics, including factors such as peer pressure and over-confidence.

Establish a supervision system that takes into account guide skills, client competence, and awareness of safety responsibilities as a rider. of an ATV, and the hazards of the trip.

Options include:

- Placing guides in certain position, such as lead, tail, middle.
- Designing tracks so that guides can short-cut to different supervision positions as required.
- Designing tracks so that clients can be observed easily.
- Using obvious gathering or waiting points to regroup.

Establishing levels of supervision

Levels of supervision (the number of guides to clients) are a key component of a supervision system.

There are no overarching recommendations on the number of guides to clients for ATV trips. It's acknowledged that there is a large degree of variability from trip to trip in factors such as hazards, ease of observing clients, and client competence.

Establish maximum number of allowable clients and minimum client supervision levels for every trip. Take into account the requirements for a supervision system as recommended above.

Increase supervision levels when operational situations are less than optimal, eg:

- Trips run in the dark.
- Less experienced or confident guides.
- Less physically able, younger, less confident, or difficult clients.
- Challenging environmental conditions.

Parameters for sole guiding

Many ATV trips are sole guided. Sole guided trips involve an increased risk of clients being inadequately supervised if the guide becomes incapacitated or spending extended periods of time on the trip and without help in an emergency scenario.

Inform clients 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 and taking responsibility for driving safely.
- Training them in what to do if the guide is unable to assist them, such as supplying a map and instructing them to stay put, how to call for outside help, and how to walk back to base.
- Training them how to keep warm.

The increased risk of clients spending longer on the trip in an emergency scenario is also present in trips with limited access to external emergency support. Sole guiding on these trips may not be suitable. For more information, see section 9.

Requirements for sole guides

Ensure that guides working sole guided trips 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 trip, including managing emergency scenarios.
- Their degree of familiarity with the trip hazards.
- Their degree of familiarity with the operator's standard operating and emergency procedures.

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

Section 8: Equipment

Ensure that equipment is suitable and in good condition.

Equipment choices should be based on:

- Activities on the trip.
- Identified hazards and associated management strategies.
- Emergency scenarios and response plans.
- Factors on the day such as guide skills, results of client assessments and environmental conditions.

8.1: Client and guide equipment

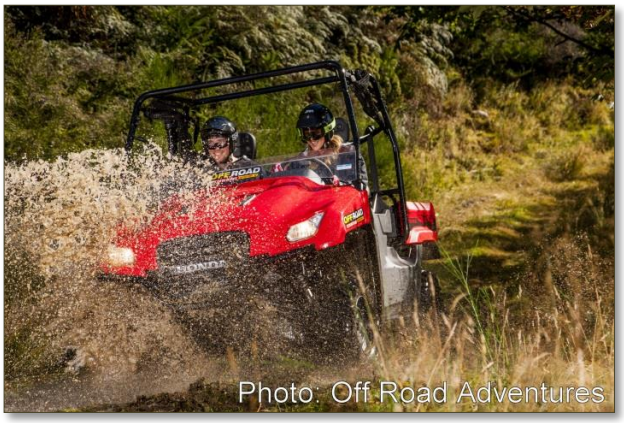
Use equipment according to manufacturer's recommendations and current industry use.

Client equipment

Correctly fit equipment as per the manufacturer's instructions. Check equipment for fit as suitable throughout the trip, such as after breaks when equipment has been taken off.

Ensure all clients are equipped with:

- A helmet that is suitable for the activities on the trip. This will vary depending on factors such as speed and track surface. There's a design standard specifically for ATV helmets (NZS 8600:2002). Operators usually prefer motorcycle helmets with an open face because they enable easy communication. These are acceptable although they don't have the NZ Standards logo. For more information, see www.nzta.govt.nz



- Closed-toe shoes.
- Clothing suited to the activity and environmental conditions, eg warm or waterproof layers, eye wear or visors for protection against mud and insects, gloves, and clothing that covers arms and legs for activities on particularly rough or uneven terrain or where clients are being hit by vegetation as they drive.

Guide equipment

Guide equipment recommendations are the same as those for clients.

Consider carrying basic repair equipment on longer trips in cold temperatures where breakdowns present a risk of hypothermia to clients. Make decisions based on the associated risk.

8.2: Choosing the right ATV

Choosing the correct ATV for the terrain, the activities, and the client is crucial for managing safety.

Different ATVs are designed for different uses – from agricultural use to recreational and sport driving. There are also ATVs designed for smaller people, such as ATVs under 90cc.

When choosing an ATV consider:

- The manufacturer's instructions.
- Terrain and activities on the trip.
- Client size and likely ability.
- Ease of use – simplicity of controls and handling including throttle response, steering, engine braking, and automatic versus manual gearing.
- Stability of the ATV – low centre of gravity.
- The number of clients expected to be on the ATV, eg family groups may be suited to side-by-side vehicles that enable everyone to participate.
- Engine size – including power to weight ratio.
- Weight and dimensions.
- Whether the ATV is 2WD or 4WD.
- Tyre type – ensure that tyres are designed for and suited to the terrain in use.

8.3: Emergency equipment

This section includes recommendations on emergency and first aid equipment, including equipment accessibility.

Equipment

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

Give careful consideration to the ease of access for secondary emergency support services. Where trips are operated in locations that aren't easily accessible by secondary emergency support, the following items should be considered:

- Shelter and heat sources such as space blankets, heat packs, tent flys, ground insulation, high energy food, and additional thermal clothing
- A backboard or stretcher – consider including rated attachment points for hauling and helicopter strop use, and stationing it strategically on the trip.
- Basic ATV repair equipment.

For more information on contingencies for limited access to emergency support, see section 9.2.

First aid

For all activities, ensure that first aid supplies are suitable for the identified first aid scenarios of the trip. Suggestions for first aid kit contents can be found at www.supportadventure.co.nz/other-resources#firstaid

Accessibility of emergency equipment

Ensure that trip emergency equipment is suitably available and accessible. Consider the trip's activities, identified emergency scenarios, and the ATVs when determining whether equipment is carried on the trip or cached along the route.

8.4: Equipment maintenance, testing, and inspection

Maintain, inspect and test equipment regularly enough to ensure its reliability.

Ensure ATV maintenance and inspection techniques and schedules are consistent with manufacturers' recommendations and reflect factors such as:

- Normal operational wear and tear.
- Operational incidents such as collisions or impacts on helmets.
- The amount the ATV has been used since the last check – measure use as specified by the manufacturer such as mileage or engine hours.

Record ATV services and major maintenance. Ensure this can be traced to the particular ATV – consider ATV identification systems such as numbers.

Pre-use checks

Before each ATV is used, ensure that it's fit for purpose and that the following areas have been checked:

- Throttle
- Brakes
- Steering
- Tyre pressure and condition
- Any damage that may affect safety

Checks include staff driving the ATV and may be incorporated into routine actions such as staff moving the ATV from one space to another. Ensure staff are aware of what they should be checking.

Where there are multiple trips in one day, checking could include having observed the performance of the ATV on the previous trip and considering any comments made by clients. Staff need to have observed enough to be sure the ATV is fit for purpose. If not, it will need to be test driven.

Refuelling

Ensure refuelling procedure and storage of fuel is in line with the requirements the local authority and the Hazardous Substances and New Organisms Act 1996, which can be found at www.legislation.govt.nz

Pay particular attention to:

- Displaying signage indicating no smoking, no entry, and flammable liquids refuelling area.
- Ensuring that clients don't enter the refuelling area.
- Refuelling using staff who are competent to do so.
- Ensuring that suitable fire-fighting equipment is available.

For more information on managing the equipment aspects of your operation, go to: www.supportadventure.co.nz/safety-management-plans/equipment

Section 9: Emergencies

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

Train staff and ensure that suitable equipment is available to manage each identified emergency scenario. ATV emergency scenarios can involve the recovery of an ATV and the risk of straps breaking or loads shifting. Ensure that the safety of people is the priority and that people are well clear of any impact zones.

For information on staff competence, see section 6.

For information on emergency equipment, see section 8.3.

Trip 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're addressed in section 5.

9.1: Accessing emergency support

Ensure that suitable external emergency support is available as soon as is practicable and within a planned period of time. This period of time should be specified within the operator's emergency procedures. Consider emergency scenarios and daylight constraints.

Emergency planning and procedures should consider factors that could impact on the availability of suitable external emergency support. These include:

- The ability to call for external support while on the trip.
- The type of external emergency support required by each emergency scenario.
- Trip access and evacuation options.
- The need for daylight.
- Capacity and ability of local rescue resources such as community rescue agencies and other ATV operations.

9.2: Contingencies for limited access to emergency support

Where access to suitable external emergency response is limited, groups may spend longer on the trip in an emergency scenario. This risk needs to be managed. Management strategies should be based on the associated risk.

Options include:

- Informing clients of the risk of extended time on the trip in the event of an emergency.
- Considering accessibility when determining guide to client ratios, assessing clients, and setting competence requirements for guides.
- Ensuring guides are competent to manage an emergency scenario over an extended period of time.
- Finishing trips early in the day to allow time for any overdue trip response and rescue.
- Training with or informing local rescue response personnel on trip access and escape routes.
- Storing evacuation equipment on the trip, such as backboards.
- Taking extra care throughout the trip and considering excluding avoidable higher risk activities.

- Considering running only multiple-guide trips, particularly for trips involving activities on steep, uneven, rough, or slippery terrain
- Having resources available to maintain group safety during a delay leaving the area, such as food, water, warm clothing, and heat sources.

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 safety system reviews or audits are a crucial part of running a safe operation.

10.1: Internal reviews

Conduct an internal safety system review after an incident that caused or might have caused a serious injury. Consider conducting an external review.

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 ATV operators.

10.2: External reviews

ATV operators are required by the Adventure Activity Regulations to undergo an external audit before operating, and at regular intervals as defined by the adventure activities certification scheme.

These audits assess operations against the WorkSafe 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

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

Appendix 1: Health and Safety Terms

The guideline uses several terms you need to understand to be sure you comply with the health and safety legislation.

Hazard and risk

The Health and Safety at Work Act 2015 requires operators to take all reasonably practicable steps to manage the risks arising from hazards.

Hazard

Anything that does or could cause harm, including a person's behaviour when it may cause harm, eg due to the effects of fatigue or drugs and alcohol.

Significant hazard

A hazard that does or could cause a notifiable event.

Harm

Illness, injury, or both, including physical and mental harm caused by work-related stress.

Risk

A chance of harm.

Reasonably practicable

The Act requires operators to safely provide activities, considering:

- The likelihood of harm occurring.
- The severity of any harm that may occur.
- How much is known about the hazard or risk and the ways to eliminate or minimise the risk.
- The availability of ways to eliminate or minimise the risk.
- The cost and whether it's disproportionate to the risk (after considering the points above).

Where there is a serious risk, a greater cost in providing safeguards may be reasonable. If there are significant hazards and the measures are too expensive, unavailable, or ineffective, the only reasonably practicable step might be to cancel the activity.

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

Serious risk

A chance of a notifiable event.

Notifiable event

The Act states that a notifiable event means any of the following events that arise from work: the death of a person, a notifiable injury or illness, or a notifiable incident.

Notifiable injury

For operators, this will usually mean any of the following injuries that require the person to have immediate treatment (other than first aid) or treatment within 48 hours:

- The amputation of any part of their body
- A serious head injury
- A serious eye injury
- A serious burn
- The separation of their skin from an underlying tissue (such as degloving or scalping)
- A spinal injury
- The loss of a bodily function
- Serious lacerations.

For the legal definition, see the Health and Safety at Work Act 2015, section 23