Mountain Biking

Adventure Activity Standards (AAS)

for
Organisations, Guides & Leaders
Conducting Adventurous
Activities for Participants
(Commercial or Non-Commercial)

Government of South Australia
Office for Recreation and Sport

RECREATION SOUTH AUSTRALIA
COMMUNITY • OUTDOOR • FITNESS

Prepared by Recreation South Australia with the support of the Government of South Australia and South Australia's Outdoor Community

Introduction to AAS

The South Australian Adventure Activity Standards (AAS) have been developed to assist organisations, Ride Leaders and Assistant Ride Leaders to plan and undertake outdoor adventure activities with dependent participants. This document should be used as part of your organisation's risk management program.

Participants undertaking adventure activities may already have a degree of skill and experience in a particular adventure activity, and as such may be less dependent upon the group leader for guidance and instruction. In these situations, the AAS should be adapted to reflect the experience of group members and the particular situation of the adventure activity.

Regardless of the extent to which the AAS is adopted, each organisation, Ride Leader and Assistant Ride Leader has a duty of care to their participants to have completed a risk analysis of the activity, and developed a risk management approach to address potential and unexpected situations.

The AAS have been prepared with the involvement of a wide cross-section of South Australia's and Victoria's outdoor industry, and reflects minimal acceptable standards of behavior expected when planning and undertaking outdoor adventure activities with inexperienced and dependent participants.

Acknowledgement

In the development and implementation of AAS in South Australia, Recreation SA acknowledges the work of the Outdoor Recreation Centre Inc. in initiating, coordinating and developing AAS through many outdoor recreation groups within Victoria.

These AAS can now be adapted nationally across a number of outdoor adventure activities, and Recreation SA has reviewed and amended the content, in consultation with South Australian outdoor industry representatives, to reflect South Australia's legal, government, environmental, social, education and industry conditions.

The implementation of the AAS in South Australia is recognition of the State's commitment to national minimum industry standards for outdoor adventure activities.

Important disclaimer

The information contained in this publication has been gathered through widespread industry consultation. All reasonable attempts have been made to ensure that it is accurate, relevant and current at the date of publication. Nevertheless, the Adventure Activity Standards (AAS) are only advisory and general in nature and should not be relied upon to meet individual or specific requirements. They are recommendations for voluntary application to adventure activity providers and participants. They are not binding on any person or organisation and have no legal force.

The AAS will not cover each and every circumstance of an adventure activity. Nor can they, when adhered to, entirely eliminate the risk or possibility of loss or injury. Consequently they should be used as a guide only. Whenever using the information contained in this publication or any AAS, all adventure activity providers should carefully evaluate the specific requirements of the intended adventure activity and the persons participating in it. If necessary, advice should be obtained from a suitably experienced and qualified professional person.

This publication and the information and the AAS it contains are made available on the express condition that the Government of South Australia (Office for Recreation and Sport) and Recreation SA, together with the authors, consultants and advisors who have assisted in compiling and drafting this publication and the AAS are not rendering professional advice to any person or organisation and make no warranties with respect thereto and to the maximum extent permitted by law disclaim all liability and responsibility for any direct or indirect loss, damage or liability which may be suffered or incurred by any person as a consequence of reliance upon anything contained in or omitted from this publication.

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- Department for Environment and Heritage
- Operation Flinders
- Bushwalking Leadership SA
- Wilderness Escape Outdoor Adventures
- Venture Corporate Recharge
- BCS Adventure Services
- Scouts SA
- The Association for Horsemanship Safety and Education
- Rock Solid Adventure
- With Good Company
- TAFE SA, Adelaide North

Managed by the AAS Steering Committee representing:

- Department of Education and Children's Services
- Department for Environment and Heritage
- Department for Families and Communities—Office for Youth
- Department for Families and Communities—Youth Adventure and Recreation Service
- Office for Recreation and Sport
- Recreation SA
- TAFE SA, Adelaide North
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- Adelaide Mountain Bike Club
- Bicycle SA
- ForestrySA
- Wilderness Escape Outdoor Adventures
- Venture Corporate Recharge
- Department for Families and Communities—Youth Adventure and Recreation Service

Adventure Activity Standards: why have standards?

AAS are voluntary guidelines for undertaking adventure activities in a manner designed to promote:

1. **Safety** for both participants and providers
2. **Information** for providers against legal liability claims and criminal penalties
3. **Assistance** in obtaining insurance cover.

These AAS are **not** statutory standards imposed by law.

Basis of legal liability

Legal liability for personal injuries or property damage is primarily governed by the law of:

1. Contract
2. Negligence.

Although provisions of statutes such as the *Trade Practices Act 1974 (Cth)* and the *Recreational Services (Limitation of Liability) Act 2002* are also relevant.

Claims in contract

For there to be a claim in contract there must be a legally enforceable agreement (i.e. a contract) between the person who has suffered injury or loss and the provider against whom the claim is being made. For example, there is a contract between a provider and a client, where the provider agrees to provide services for payment. The contract can be in writing or oral, or both. The claim in contract can only be made by one party to the contract against the other party, unlike a claim in negligence, which is not so limited.

Apart from the express terms of the contract, the law will usually imply certain terms into a contract that require a service provider to do a number of things when providing that service. Those implied terms might include a requirement to provide competent guides and instruction, safe equipment, and a general requirement to exercise the degree of reasonable skill and care which is to be expected of a competent provider. Some of these terms will be implied by sections of the *Trade Practices Act 1974 (Cth)* and the *Recreational Services (Limitation of Liability) Act 2002*.

If injury or damage occurs because the provider did not exercise reasonable care in the provision of the service, a Court can find there was a breach of the contract entitling a party to claim compensation (damages) for the loss or injury suffered.

Claims in negligence

Over recent years the law of negligence has undergone substantial legislative change in South Australia. These changes are set out in the *Civil Liability Act 1936 (SA)*.

The essential elements of a claim in negligence are:

1. a duty of care being owed by the provider to take reasonable measures for the safety of their clients/participants

2. a breach of this duty of care
3. the breach of the duty of care being a cause of the harm suffered by the participant.

A successful claim in negligence against a provider will result in an award of damages against that provider to compensate for the loss or injury thereby suffered.

Although the law does not automatically impose a duty of care, it is likely such a duty will be imposed when one party (the provider) assumes responsibility for another in the provision of adventure activities.

The duty of care is a legal requirement imposed by the courts on a provider to take reasonable care to protect a client or participant from foreseeable harm or loss.

If a claim is made and a court finds that a duty of care is owed, the court must then decide what is the appropriate level or standard of that duty of care, to determine if the provider has acted reasonably or alternatively has breached the duty of care. The standard of care is determined by all the relevant circumstances and the particular facts of each case. A court will have regard to the experience of the providers and the clients, the conditions at the time, and ultimately may seek the guidance from experts in the field. A court will find that the standard of care has not been met, (i.e. there has been a breach of the duty of care) if the evidence, on the balance of probabilities, establishes that the provider has not acted reasonably in the circumstances. If that conduct has caused loss and damage the provider will be liable to pay damages to compensate the party who has been injured or has suffered a loss.

For example, in an outdoor recreation activity some participants could find themselves in a situation suited to more advanced participants. There may be persons in the group who have been lead to believe by the provider that a certain skill level was not required and enrolled to join a group mis-described as being for ‘beginners’.

If an accident occurred due to their inexperience, and these ‘novice’ participants were injured, it is possible that a legal action to recover damages might be based as follows:

- in the law of contract, against the provider, if it can be demonstrated that the provider incorrectly described the group as being for ‘beginners’
- in the law of negligence, against the leader and guide, as well as the provider because of a failure to adequately instruct, advise and perhaps supervise the group.

The duty of care of the provider is higher than that placed on the ordinary citizen because the provider has agreed to provide services for a reward or assumed a responsibility of care for others, e.g. by holding him/herself out as experts or specialists who have agreed to take participants into potentially dangerous or remote situations.

Whilst not an exclusive list the following is a guide to the standards that should be addressed by any provider, guide, instructor, teacher or staff member:

- ensure the activity is appropriate for the skills and experience of the intended participants
- ensure the intended activity is appropriate given the known, expected and forecast conditions

- provide adequate staff/leader supervision
- provide competent and appropriately trained staff/leaders
- provide safe and properly functioning and adjusted equipment
- provide reasonable food and safe shelter (if relevant to the activity)
- provide reasonable guidance, instruction and direction to participants
- depending on the activity, have an adequate knowledge of the area in which it is to take place and be able to provide reasonable first aid, emergency backup and rescue.

The law will require the provider to protect participants from known hazards, but also from those risks that could arise (that is, those that the provider, instructor, teacher or staff member guide should reasonably have foreseen) against which reasonable preventative measures could be taken.

In these circumstances, in order to limit potential for legal liability and to minimise the risk of injury, each organisation needs to implement risk and safety management processes, which have identified foreseeable risks and put in place measures to control such hazards. For the same reasons, all providers, leaders or guides ought, as a minimum, to have completed appropriate first aid and activity specific training.

This is particularly so where the activity is a specialised one. In these circumstances, as a participant will be seen as relying on the expertise of the provider, leader or guide, a high duty of care will be imposed because they will be considered as having a responsibility for the control, guidance and protection of the participant.

Defences against claims by participants

No Negligence

The most obvious defence to a claim in negligence is for the operator to establish that he/she acted with all reasonable care in the circumstances: that is, was not negligent.

In attempting to do so the following questions must be considered:

- was the risk of harm foreseeable?
- was the risk not insignificant?
- would a reasonable operator have taken additional precautions that would have prevented the harm?

In determining whether a reasonable operator would have taken additional precautions a court will consider the following (amongst other relevant things):

- the probability that harm would occur if care were not taken
- the likely seriousness of the harm
- the burden of taking precautions to avoid the risk of harm
- the social utility of the activity that creates the risk of harm.

Voluntary Assumption of Risk

If it can be proved, on the balance of probabilities, that a participant was fully aware of and freely accepted the risk of suffering injury in an activity then this will be a defence to a claim in negligence. It will not be a defence, however, if the injury was caused by the inexperience or incompetence of the provider, defective equipment, inadequate supervision or instruction as it is highly unlikely that any participant would have consented to accept such risks.

If the risk of harm was an obvious one then there is a rebuttable presumption that the person who suffered the harm was aware of the risk.

Duty to Warn

A person who owes a duty of care to another person to give a warning, or other information in respect of a risk, satisfies that duty if reasonable care is taken to give that warning, or other information. This is potentially very important in the context of an Adventure Activity where it may be prudent for the provider to give all participants printed instructions and warnings (where appropriate) and obtain signed acknowledgements.

However, section 38 of the *Civil Liability Act 1936 (SA)* prescribes that there is no duty to warn of an 'obvious risk', or if there is an applicable code of practice in force under the *Recreational Services (Limitation of Liability) Act 2002*. Further to this, the section does not apply if the plaintiff has requested advice or information about the risk from the defendant or if the defendant is required to warn the plaintiff of the risk either by law or pursuant to the code in force under the *Recreational Services (Limitation of Liability) Act 2002*.

Contributory Negligence

If the accident was caused or contributed to by lack of reasonable care on the part of the participant then this will be a partial defence, according to the apportionment of responsibility made by the court between the provider and the participant. In cases of extreme acts of negligence by the participant, contributory negligence can be very high (e.g. 80–90%) and sometimes a complete defence.

Inherent Risks

A person is not liable in negligence for harm suffered by another person as a result of an inherent risk. An inherent risk is a risk of something occurring that cannot be avoided by the exercise of reasonable care.

Waiver to Sue/Exclusion of Liability Agreements

Amendments to the *Recreational Services (Limitation of Liability) Act 2002*, and the *Trade Practices Act 1974 (Cth)* enables providers of 'recreational services' to modify or exclude a duty of care owed to a consumer by the use of a waiver or limitation of liability. This will only apply where there is no registered code in relation to the recreational service. The amendment will only apply until 1 August 2007, after which time the only manner in which liability will be able to be modified with respect to a recreational service will be in accordance with a registered code.

Good Samaritans, Volunteers, Apologies

Good Samaritans

Under the *Civil Liability Act 1936 (SA)* (as amended) an individual who provides assistance, advice or care to another person in an emergency, where there is no expectation of payment by money or other means, will not be able to be sued for any injury or harm he/she causes if acting in good faith without recklessness (provided the good Samaritan's ability was not significantly impaired by alcohol or drugs).

Volunteers

Pursuant to the *Volunteers Protection Act 2001 (SA)* volunteers are protected from liability for injury to another when they are acting in good faith and without recklessness in the course of carrying out community work for a community organisation. This immunity does not operate if the volunteer's ability to carry out the work properly was impaired by drugs or the volunteer was acting outside the scope of activities authorised by the community organisation or contrary to instructions given by the community organisation.

Expressions of Regret

The *Civil Liability Act 1936 (SA)* provides that no admission of liability or fault is to be inferred from the fact that a person expressed regret in respect of the incident relating to the injury.

Limitation on claims for personal injury damages

Pursuant to the *Civil Liability Act 1936* (as amended) an injured person cannot obtain damages for pain and suffering unless the injured person's ability to lead a normal life was significantly impaired by the injury for a period of at least seven days or medical expenses of at least the prescribed minimum have been reasonably incurred in connection with the injury. The assessment of pain and suffering is assigned a scale value on a scale running from zero to sixty, sixty being the most severe form of injury.

The Act also imposes a cap on damages for pain and suffering of a maximum of $241,500 (indexed annually) together with other limitations in respect of damages for mental harm, and claims for both past and future economic loss.

Applying the Adventure Activity Standards

Having suitable risk management programs and strategies in place, and ensuring the AAS are met, will minimise the likelihood of injury or loss. Evidence of compliance with such programs and the AAS may also assist in the legal defence of claims and in helping to establish that a provider and its leaders have acted reasonably in the circumstances (i.e. were not negligent). It is also likely such programs will assist providers in obtaining more favourable insurance arrangements.

Disclaimer

The above comments on legal liability in Contract and Negligence and defences and limitations thereto, including recent legislative changes, do not purport to be a complete and accurate description of the law on these topics. The State Government of South Australia (Office for Recreation and Sport) and Recreation SA, its servants and agents are not by these comments providing legal advice to any person, company or organisation and make no warranties with respect thereto and to the maximum extent permitted by law disclaim all liability and responsibility for any direct or indirect loss, damage or liability which may be suffered or incurred by any person, company or organisation as a consequence of or in reliance upon anything contained in, implied by, or admitted in this document.

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Activity description

Mountain biking is the riding of a bicycle specifically designed for off-road use, over unsealed surfaces. Whilst AAS strictly apply to any organised mountain bike ride involving dependent participants, commercial or not, it is important that the individual circumstances of each ride be taken into account. For the purposes of this document, the definition is further extended to cover riding in groups of two or more, with one person perceived or identified as a Ride Leader.

Definition of terms

Activity Provider: The provider of the activity. This may refer to an organisation (Commercial or non-commercial) and/or a Ride Leader (commercial or non-commercial).

Organisation: A person or group of persons organised for a particular purpose and assuming the role of providing a mountain bike trip (Activity provider) being commercial (for profit) or non-commercial (not for profit/community group).

Participant: A person whose welfare is the responsibility of an Assistant Ride Leader, Ride Leader or Instructor. (NOLRS 'Client', also 'Dependant')

Ride Leader (Trip Leader): A competent and qualified rider who assumes the responsibility for the ride or trip and coordinates the entire group including Assistant Ride Leaders to satisfy the objectives of the ride. (Commercial or not)

Assistant Ride Leader (Guide): A person who assumes the responsibility for a group of participants on a mountain bike ride with the intention to offer the experience of the activity and to satisfy the objectives of the ride. (Commercial or not)

Urban: Urban trips are defined in AAS as any trip which is at no point any more than 2 hours from emergency medical attention.

Remote: Remote rides are defined in AAS as any ride which is at any point more than 2 hours from emergency medical attention.

Emergency medical attention: Definitive medical attention being that of a medically qualified person (paramedic or doctor). This may be getting definitive medical attention to the injured participant/s or by getting the injured participant/s to definitive medical attention.

Summary of abbreviations

AAS	Adventure Activity Standards
DEST	Department of Education, Science and Training
NTIS	National Training Information Service
ITAB	Industry Training Advisory Board
SRTA	Sport and Recreation Training Australia
NOLRS	National Outdoor Leaders Registration Scheme
Cth	Commonwealth

1 Planning

Before setting out, the planning section of the activity standards contains the documented administrative aspects of AAS. It is here you will find the requirements that must be addressed before undertaking any activity plan.

1.1 Activity plan for mountain biking

Route selection is the most important consideration when creating an activity plan for mountain biking. Organisations and Ride Leaders must select track systems that meet the objectives of the ride. To do this the following considerations are to be included:

- Ride Leader to participant ratio (see 2.6)
- Ride purpose and goals (see 1.6.1)
- Ride type (see 1.6.2)
- Group size
- Rider ability/experience level, including fitness (see Appendix B: Assessment of rider ability)
- Trail classifications (grade, technical difficulty and surrounding environment: see Appendix A)
- Access to and remoteness of track system/route
- Age of group
- Gender of group
- Suitability of weather conditions for desired objectives
- Support capabilities (vehicle support)
- Suitability and availability of maps.

When selecting a Ride Leader for a mountain bike ride it is essential to consider the following:

- The Ride Leader has the required competency to conduct the ride, effectively manage incidents and to satisfy the planned objectives.
- The selected Ride Leader must be familiar with the specific track system being visited.
- Competencies must be commensurate to the difficulty of the ride.

1.2 Pre-trip documentation

Documentation is often seen as a chore and not a minimum requirement. However, there are certain details which a Ride Leader and/or Organisation must be aware of to maximise safety. The following is agreed to be the required documentation for a mountain bike ride:

- Emergency Strategy (including details set out below in 1.4)
- Identity and contact details of the Ride Leader

- Name and contact details of the Organisation
- Participant list, including name and address, emergency contact details
- Any participant medical conditions and how they should be dealt with shall be documented (e.g. asthma (details of management plan required), diabetes, epilepsy, fainting/dizziness, specific allergic reactions, blood conditions which may effect bleeding/clotting, impaired sight, impaired hearing, conditions effecting balance, recent or longstanding injuries, disability, illness or other medical conditions relevant to ability to ride (e.g. heart conditions, migraines and/or pregnancy) and any relevant medication)
- Participants should provide signatures to acknowledge inherent risks and to authorise any relevant emergency treatment by a medical officer if required (after a full explanation/brief)
- Participants under the age of 18 must have the signature of a parent/guardian.

All documentation must be readily accessible to the Ride Leader and non-participating contact in the event of an incident/emergency and all individual participant requirements must be appropriately accounted for throughout the ride.

1.3 Documented site-specific hazards

Because track systems and conditions change, documentation of site-specific hazards is not an AAS requirement.

AAS do recommend that Ride Leaders conduct a documented risk assessment prior to any trip and document hazards, changes to the expected track condition and how they should be reasonably dealt with. This information should be made readily available within the Organisation and reported to the land manager where relevant.

1.4 Emergency strategy

Every emergency strategy must be written to manage incidents and minimise their escalation.

The Ride Leaders and an appropriate external contact, either within each Organisation or otherwise, must be fully aware of the emergency strategy and a summary must be provided as a component of the preliminary group briefing.

A copy of the documented emergency strategy must be carried on the ride and a further copy must be kept with the relevant external contact.

The Ride Leaders shall communicate with the relevant external contact at designated time/s. Upon failure to do so the external contact shall notify the SES/Police.

The emergency strategy for a mountain bike ride must be specific to each ride and must contain:

- Access and escape routes (tracks, trails with approximate distances)
- Assembly points where appropriate
- Contact details for key organisations (e.g. land manager, CFA, SES, Police, Ambulance). This should include the means of communication (mobile phone,

satellite phone, radio) where the communication can be expected to work and how they are best contacted

- Planned start and finish times of the ride.

AAS recommend that for remote trips, the locations of radio repeaters should be noted on the emergency strategy.

1.5 Restrictions to participation

Operational restrictions to a mountain bike ride include weather, equipment, difficulty of route and restrictions dictated by land manager and environmental factors (trail conditions, flood, drought, fire).

Individual restrictions to a mountain bike trip should apply to participants deemed to be under the influence of alcohol or drugs including prescription drugs which may affect performance and to participants who are unable or unwilling to follow instructions. (See 2.2 Specific responsibilities of the Ride Leader)

1.6 The Ride

1.6.1 Ride purpose and goals

Every ride has a purpose and a goal. The purpose of the ride may be recreational, educational, skills improvement, personal development or any number of other reasons for riding. The goal may be just to get all riders to the destination together, or within a certain timeframe or just to enjoy themselves. Identifying the purpose is important as it establishes the structure of the ride for the participants. The purpose also helps in defining the responsibilities of the participants and the Ride Leader/s.

1.6.2 Ride type

For the purposes of this AAS, five different types of rides have been defined, as shown in the table. This type of classification process is aimed at clearly defining key aspects of the ride plan, to make the Ride Leader's role simpler.

Classification		1	2	3	4	5
Description		Short Recreational	Long Recreational	Enduro	Marathon	Tour
Duration (either/or)	Time	< 2 hours	< 5 hours	< 8 hours	8 to 24 hours	> 24 hours
	Distance	5 to 30km	30 to 60km	60 to 80km	> 80km	30 to 80km/ day
Remoteness	Transport	< 15km	< 30km	< 40km	< 50km	< 50km
	Food and water	< 15km	< 30km	< 40km	< 50km	< 50km
	Medical	< 45km	< 60km	< 70km	< 80km	> 80km
	Mechanical	< 15km	< 30km	< 40km	< 50km	< 50km
External Support		Base	Base	Base	Base	Mobile
Communication to external responsible person		Mobile phone in service	Mobile phone in service	Mobile phone in service	Mobile phone in service	Satellite or other reliable equipment

Classification	1	2	3	4	5
Plan lodged with responsible person	Basic	Basic	Basic	Detailed	Detailed
Emergency Plan	Basic	Basic	Basic	Detailed	Detailed
Instructions to Riders	Basic	Basic	Basic	Detailed	Detailed
Trail Classification	Any	Any	95% Blue square 5% Black diamond	Blue Square	Blue Square
Rider Capability	Any	Intermediate to advanced			

1.6.3 Trail Classification

It is important that trails selected for a ride are suited to the group's riding skills and abilities. Appendix A provides guidelines for the classifications of trails to assist in the preparation of ride plans.

2 Responsibility of the Ride Leader

This section includes all aspects of the activity plan that involves the Ride Leader and covers the specific competency required for various levels and covers basic requirements.

2.1 Competencies

In the absence of any established and recognised national training qualification for all mountain bike activity providers, any Ride Leader must be confident of having satisfied a process of skill acquisition which must be at least equivalent to that described by the following selected units from the Department of Education, Science and Training.

A statement of attainment for these units is not compulsory. However, the inclusion of this section is intended to provide a suitable benchmark describing the skills that a Ride Leader should have as described within the National Outdoor Recreation Industry Training Package.

Generic

These units relate to generic competency (soft skills) expected of any individual in a position of Leadership or Management in the outdoors.

Outdoor Recreation Skills are split for Urban and Remote trips. Remote trips are defined in AAS as any trip which is at any point more than 2 hours from emergency medical attention.

Leadership and Management Skills

Code	Unit name
SRXEMR001A	Respond to emergency situations
SRXFAD001A	Provide first aid

SRXGRO001A	Facilitate a group
SRXGRO002A	Deal with conflict
SRXRIK001A	Undertake risk analysis of activities
SRXINU002A	Apply sport and recreation law
SRXOHS001B	Follow defined OHS policy and procedures

Outdoor Recreation Skills (Urban)

Code	Unit name
SROOPS002B	Plan for minimal environmental impact
SROOPS003B	Apply weather information
SROODR005A	Assistant Ride Leader outdoor recreation sessions

Outdoor Recreation Skills (Remote)

Code	Unit name
PUAOPE002A	Operate communications systems and equipment
SRONAV002B	Navigate in difficult or trackless areas
SROOPS006B	Use and maintain a temporary overnight site

Mountain Bike Skills

Level One

Dirt roads, possibly some sealed sections and/or a bike path. Fire trails which are relatively wide with few obstacles. Predominately these are dirt or rocky surfaces but they may include partly overgrown tracks, gravel or mixed surfaces. Undulating rather than hilly. It is most likely these rides will be urban.

Bicycle Repair Skills

Code	Unit name
AUR12166A	Repair bicycle mechanical braking system
AUR14666A	Repair bicycle drive train systems
AUR15666A	Repair bicycle steering systems
AUR18168A	Remove, repair and refit bicycle tyres

Mountain Biking Skills

Code	Unit name
SROMBK001A	Demonstrate basic off-road cycling skills

Level Two

Single-track dirt based trails of varying width. There is a real chance of logs or other obstacles. The surface will be of a dirt or rocky surface which have poor drainage. Real hills will be encountered with possible steep sections. These rides may be urban and/or remote.

Level two Assistant Ride Leaders must be competent to level one plus:

Bicycle Repair Skills

Code	Unit name
AUR08666A	Repair bicycle wheel hubs

Mountain Bike Skills

Code	Unit name
SROMBK002A	Apply advanced off-road cycling skills
SROMBK003A	Assistant Ride Leader off-road cycle tours

Level Three

Any track type with rocky, rutted or very loose surfaces. The likelihood of obstacles and ruts create difficult steep climbs with rough technical descents. Surfaces are likely to be slippery or muddy when wet. These rides are most likely to be in remote areas.

Level Three Assistant Ride Leaders must be competent to level two but must have evidence to support their experience at level three rides.

Details of these units can be accessed by logging on to the Department of Education, Science and Training website at www.ntis.gov.au.

2.2 Specific responsibilities of the Ride Leader

Whenever commencing any mountain bike ride, it is the Ride Leader's responsibility to ensure that the level of knowledge, ability, skill and equipment of each participant is appropriate for the level of difficulty and complexity of the ride and to receive acknowledgement from all participants that he/she (as Ride Leader) has the role of leading the group.

The following are the responsibilities of a mountain bike Ride Leader. Individual tasks may be delegated but the responsibility remains with the Ride Leader:

- Complete ride plan
- Research and plan for likely hazards/incidents/inherent risks/emergency
- Ensure minimum environmental impact message is conveyed and adhered to including responsible riding techniques, flora, fauna and rubbish removal
- Confirm group experience/capabilities match ride to be undertaken
- Provide all participants and Assistant Ride Leaders with a brief covering all aspects of the ride, either verbally or as hand-out (See 2.4)
- Ensure a practice session is conducted, skills are imparted and ongoing coaching of technical skills occurs where necessary
- Last minute checks including weather, bicycle safety check and other equipment
- Confirm head count before, during and immediately following the trip
- Maintain constant awareness of the physical and psychological condition of the group
- Control the pace of the group and rest group if necessary
- Maintain constant surveillance/observation of participants to ensure to the best of your ability that communication is maintained between the front and back of the group and that group members do not get into situations beyond their known capabilities

- Designate responsibility to support personnel and ensure that the vehicle used is suitable
- Notify external contacts of safe return/completion
- Check all group equipment prior to departure and on return
- Ensure that any incidents are documented and reported
- Check first aid kit and communication equipment prior to trip
- Appoint external contacts to notify Police if not contacted by designated times
- Collect waiver forms signed by all participants prior to trip.

2.3 Assistant to the Ride Leader

All persons acting as Assistant Ride Leaders must support and assist the Ride Leader according to the ride plan and manage any incident or emergency according to the emergency strategy if the Ride Leader becomes injured or incapacitated. (See 2.6 and 2.7).

Assistant Ride Leaders must ensure that the group is maintained by acting as a rear rider or roving Marshall.

2.4 Communication and authority

As for all outdoor activities involving group participation, all participants and Ride Leaders must use an agreed and understood system of communication. It is essential that this system be devised before the ride and agreed as a component of the pre-trip briefing.

Every communication system requires a clear full briefing. This may be delivered differently according to organisational preference and, where relevant, the length and complexity of a ride but must include and is not limited to each and every element of the following:

- Introduction of Ride Leader and description, location and objectives of trip
- Strategies for environmental conservation including responsible riding techniques, flora, fauna and rubbish removal
- The nature of the activity, inherent risks, emergency strategy, group conduct and communication requirements
- Equipment and clothing including:
  - Helmets:
    - State features of helmet
    - Demonstrate proper fitting of helmet
    - Check fit of participants' helmets
    - Instruct participants to wear fastened helmet at all times
    - No peak caps may be worn under cycle helmets
  - Bike:
    - Demonstrate correct seat height (never over the max. seat height mark)

- Ride position
- Hand grip
- Braking
- Foot position and stance

– Technical:

- Correct operation of brakes
- Correct operation of gears
- Avoiding 'over the bars'
- Horizontal crank
- Control of body position
- Application of brake pressure

– Ride tips (must be relevant to the terrain)

– Road rules where applicable

– Participant:

- Confirm participants have understood the brief (acceptance of risk)
- Confirm participants are free of the effects of alcohol/drugs
- Check participants' clothing, hair and jewellery are safe and appropriate for the planned ride

- All dependent participants must also be aware that they have a responsibility to call obstacles and communicate all incidents, accidents and near misses
- Explanation of required documentation, including completion and signing of waiver.

2.5 First aid

Decisions on the level of first aid should be based upon the risk assessment and emergency strategy for the adventure activity. Leaders and guides should have the appropriate first aid skills commensurate with the planned activity, the skills of the group and the location of the activity, including remote areas. A comprehensive first aid kit appropriate to the level of first aid training must be accessible at all times. Remote areas may require more advanced first aid skills such as Wilderness First Aid where leader and guides recognise, prevent and treat many illnesses and injuries prevalent in wilderness and remote locations.

The following provides an overview of equivalent first aid training with St John Ambulance and Australia Red Cross.

Level 1: Basic First Aid (Resuscitation) involves basic skills and knowledge in order to recognise and provide immediate first aid for a range of common illnesses and injuries and minimise the severity of injury or sudden illness.

Leaders and guides with Basic First Aid should be able to:

- perform CPR (resuscitation)
- manage breathing emergencies: expired air resuscitation (EAR)
- control bleeding, wounds and bandaging

- manage extremes of heat and cold
- manage injuries to bones, joints and muscles
- manage poisoning, bites and stings

Level 2: Intermediate or Senior First Aid involves skills and knowledge to recognise and provide immediate first aid for a range of common illnesses and injuries and minimise the severity of injury or sudden illness.

Leaders and guides with Intermediate or Senior First Aid should be able to:

- define the principles of first aid
- demonstrate knowledge of basic human anatomy
- recognise and manage both a conscious and an unconscious casualty
- perform effective CPR and expired air resuscitation (EAR)
- identify a range of common illnesses and injuries
- control bleeding and care for various types of wounds
- recognise and manage injuries to bone or soft tissue
- recognise and manage medical conditions that may need emergency care, including heart attack, stroke, asthma, diabetes and epilepsy
- use practical first aid skills using prepared and improvised materials
- demonstrate knowledge of first aid management for a range of common illnesses and injuries.

On multi-day trips, trips planned for participants with disabilities and/or rides into remote areas, more specialised first aid knowledge may be required.

2.6 Ratios of Ride Leaders to participants

Obvious variables will affect the Ride Leaders to participant ratios. These include the track system (type, distance, difficulty, condition) and the group (experience, competence, fitness). There are clearly situations where your judgement will dictate the requirement that there be a smaller number of participants per Ride Leader/Assistant Ride Leader. Land managers may also suggest ratios that differ from AAS and where these are within AAS they must be regarded as minimum standards.

Regardless of these factors, ratios for mountain biking are better arranged into two categories: ratios where the entire trip is at no point greater than 2 hours from emergency medical attendance (urban and semi remote), and ratios where part or parts of the trip are greater than 2 hours from emergency medical attention (remote).

2.6.1 Urban and semi-remote trips

Any group of six (6) or less dependent participants can be conducted with one Ride Leader of a competency suited to the difficulty of the ride plus one responsible adult. (See section 2.1)

Any group of six (6) or more dependent participants must be conducted with the Ride Leader of a competency suited to the difficulty of the ride and at least one Assistant Ride

Leader. Assistant Ride Leader/s must be at least competency level one. (See section 2.1).

2.6.2 Remote trips

Any ride being conducted in a remote area must be conducted with no less than a Ride Leader and an Assistant Ride Leader each of a competency suited to the difficulty of the ride (see section 2.1).

No group should be left unsupervised in the event of an accident/incident involving a Ride Leader.

2.7 Group size

For the safety of both the group and the environment, the maximum group size for a mountain bike ride involving a dependent group should be 25 (including participants, Ride Leader and Assistant Ride Leader/s).

Any group size greater than 25 (including participants, Ride Leader and Assistant Ride Leader/s) must be split and each resultant group must independently adhere to AAS.

3 Equipment

Equipment requirements vary with the objectives of the ride plan and the environmental conditions likely to be endured. When planning equipment requirements for a mountain bike ride it is important to plan ahead as much as possible for all eventualities taking into account the appropriate route information and forecast weather conditions.

3.1 Equipment used by the group

See 3.3 Equipment used by the Ride Leader.

3.2 Equipment used by the participants

The following equipment requirements apply to all dependent participants:

- Cycling helmets must be worn and must adhere to Australian Standard AS/NZS 2063: 1996
- Appropriate clothing for the duration and objectives of the ride must be worn including closed in shoes. It is recommended that close fitting clothing suited to weather conditions and appropriate gloves be worn and that denim should be avoided
- Personal medication must be carried and the requirements must be understood by the Ride Leader and Assistant Ride Leader/s
- Bikes adhering to the following details should eliminate unsuitable bikes (as bike manufacturers state that mountain bikes are not intended for jumps, stunts and off road use it is very difficult to offer guidance on bikes suitable for mountain biking):
  - Tyres must be specifically suited to the terrain
  - Wheels must be straight and true
  - Front and rear brakes must be well maintained and suited to off road use

  - Only a mountain bike style handlebar is acceptable
- Where the activity plan includes a section of public road, bikes must adhere to road regulations.

3.3 Equipment used by the Ride Leader/Assistant Ride Leader

The Ride Leader must have equipment as stated in 3.2 and also have easy access to a first aid kit and the following repair kit:

- Tools:
  - 1 chain breaker
  - 1 spoke key
  - 1 10 mm spanner
  - 1 14/15 mm spanner
  - 1 screwdriver/Allen key tool (4mm, 5mm, 6mm)
  - 1 mini pump
  - 1 puncture repair kit (glue and patches)
  - 3 tyre levers
- Spare parts:
  - 2 inner tubes suitable for the bikes on the trip (and one inner tube to suit each other wheel size used on trip)
  - 4 spokes
  - 2 brake cable inners
  - 2 gear cable inners
  - 1 piece of chain
  - 2 brake pads
- It is also the responsibility of the Ride Leader to ensure that the following equipment be carried in a support vehicle or accessible on multi day trips:
  - 1 lubricant spray
  - 2 rags
  - 1 headset spanner
  - 1 pedal spanner
  - 1 crank puller, 1 pliers with cable cutter
  - 1 pressure gauge
  - 1 adjustable spanner 300mm
  - 2 cone spanners
  - 1 pair pedals.

The Ride Leader and Assistant Ride Leader/s should be quickly and easily identifiable. For example they should choose to wear clothing and/or helmets as distinguishing them from participants wherever possible.

3.4 Equipment condition, maintenance and storage

- All equipment used in mountain biking activities must be used, maintained and stored according to manufacturers' specifications where applicable
- All equipment used must be checked before and after each day
- All issued equipment, including helmets, used must be carefully washed or disinfected after each trip
- Brake levers must be in reach with two fingers and when pulled should actuate braking at roughly half the full range of the brake lever. Braking should be smooth and unrestricted
- Wear indicator on brake pads must be clearly visible
- Wheels must be straight and true with no loose or damaged spokes
- All bearing surfaces and fittings must be appropriately adjusted
- Headset and handlebars must be suitably tightened to prevent movement
- Handlebar grips and plugs must be fitted and secured
- Wheels must be firmly attached
- Pedals must be intact
- Saddle must be attached and secure
- Bikes must be cleaned, maintained and lubricated before each use.

AAS consider it essential that where appropriate a log of all equipment use and maintenance be kept current.

4 Environment and conduct

The Ride Leader, Assistant Ride Leader and organising body should be satisfied that participants are aware of their responsibilities (as members of the group) to ensure areas of scenic or recreational significance, special scientific or archaeological sites, and the natural environment are respected, and that the requirements of land managers are adhered to.

Although there are some environmental impacts that are unique to mountain biking, when conducted in a responsible manner, the level of environmental effect of mountain biking is no greater than that of walking. Specific effects relate to the nature of the wheel on the trail surface which can erode the trail surface, especially on downhill sections, loose surfaces and where bikes are ridden in an irresponsible manner.

Some trail users feel that mountain bikers present a safety hazard to other trail users because they travel at a higher speed than walkers and horses and are relatively quiet. It is therefore important that mountain bikers respect other trail users.

The following minimal impact code has been devised from existing documentation and must be adhered to when mountain biking.

Minimal Impact Code:

1. Ride in control at all times
2. Avoid skidding
3. Never ride in areas where cycling is prohibited
4. Do not cut corners
5. Never make new tracks unnecessarily
6. Always remain on the track
7. Never remove obstacles such as rock and logs from the trail surface
8. Be considerate to others. Horses, walkers and other bikers deserve basic courtesy
9. Wash your bike tyres before riding in a different area. This will help prevent spreading disease and unnatural migration of species
10. Be an ambassador for your sport, tell others about good practice and help ensure longevity of the sport.

Further to this the following strategies, which effectively minimize disturbance to natural and cultural values, represent acceptable conduct for the long-term sustainability of both the activity and the environment.

Waste

Rubbish: It is the responsibility of the group leader to ensure that no rubbish or introduced matter is left as a result of the group's activity in an area. This particularly applies to all food or drink packaging, food scraps and activity equipment. Leaders should plan to carry rubbish receptacles sufficient to enable all group-generated rubbish to be removed from the area. Where practicable, leaders should encourage participants to remove rubbish left by previous users.

Human waste: Faecal wastes are to be managed and disposed of in line with environmental regulations and land manager directions. This means that where toilet facilities are provided, these must be used. Where camping is permitted and no toilet facilities are available, toilet wastes must be buried at least 100 metres from a watercourse. If it is not feasible to bury wastes or to bury them at least 100 metres from a watercourse (e.g. narrow river valley, cliff areas), group leaders should plan to use equipment (e.g. 'poo-tubes') that enable the wastes to be removed and disposed of at a facility designed for this purpose.

Fire

Fire Bans: In most parks, the fire danger season in South Australia usually extends from 1 November to 30 April, depending on seasonal conditions. No wood fires are permitted in parks during this time. Some parks have year round bans on wood fires. Open flames are banned in all parks on days of extreme fire danger. These are declared by the Country Fire Service (CFS). Parks may be closed to visitors on Total Fire Ban days. The onus is on the leader to check the fire ban status for the area they are visiting. Phone or visit the Department for Environment and Heritage or CFS Office for more details.

Camp Fires: Native vegetation within reserves is protected. In non-reserve areas, dead trees and fallen logs play an important role in the environment. In some parks, wood

fires are prohibited or restricted. Gas or liquid fuel stoves are preferable. Where fires are permitted they must be:

- lit in existing fireplaces where possible or in a properly constructed fireplace or pit (minimum 30cm deep and a maximum of one metre wide) and returned as closely as practicable as it was
- cleared of flammable vegetation for at least three metres around the fireplace or pit
- kept to a minimum size necessary for cooking, minimising disturbance to the surrounding area
- attended at all times
- extinguished with water
- avoided if fuel is scarce
- avoided if at all unnecessary or where doing so will not comply with the minimal impact approach.

Camping

- Camp at established campsites where possible
- Make campsites away from water resources (at least 20 metres from any stream) and allow animals undisturbed access
- Use floored tents with poles
- No trenches around tents
- Use toilet facilities where available
- Avoid using any soaps or detergents. If they must be used, use only biodegradable soaps and detergents. Dispose of washing water at least 50 metres from any water source
- Wash all soil from camping and personal equipment and vehicles before leaving home or moving between locations, in order to avoid transporting seeds or soil-born pathogens such as phytophthora.

In addition, particpants are also expected to:

- try to avoid tracks and other areas which will be intrinsically more prone to erosion, especially with larger groups
- use boot washing and or hygiene stations to assist in the prevention of phytophthora
- make reasonable efforts to minimise the impact of the group on others
- assist other parties in difficulty providing this action does not adversely effect the safety of the group
- be diplomatic with other groups and other recreational users of the area
- try to minimise noise.

5 Further information

Adelaide Mountain Bike Club: <www.amtbc.com>

Bicycle SA: <wwww.bikes.asn.au>

ForestrySA: <www.forestry.sa.gov.au>

Appendix A: Trail Classifications

Easy (Class 1)

Overview

Easy Trails are suitable for children, families, elderly, disabled, novices, social groups and others seeking a relatively short distance trail requiring a basic level of skill and fitness.

Easy Trails are likely to be fire roads or wide single tracks with a gentle grade (not exceeding 10%) and a relatively obstacle free, hardened surface.

Easy Trails are likely to be multi-use and frequent encounters with other users including cyclists, walkers, runners and horse riders can be expected.

Elements for classification

Corridor width: Min. 3m

Corridor height: Min. 3.7m

Tread width: 1.5 m (single track)

Surface: Generally a modified, compacted surface relatively smooth and free of obstacles.

Distance: 0–8km*

Gradient: Maximum 10%

Maximum sustained pitch 5%

Desired gradient 0–10%

Side slope 4% maximum

Minimum turning radius: 4m

Level of skill/experience: A basic level of skill and fitness is required. Previous trail experience not essential

On-trail facilities: Facilities along the trail may include lookout platforms, seats, mounting blocks, step overs, shallow fords, barrier rails, bridges, watering points, interpretative and/or management signs

Trailhead facilities: The trailhead may be marked with a sign, specifying the name, distance, classification, multi-use code of conduct and other relevant information. Trailhead facilities may include car parking, map dispensers, toilets, drinking water and information shelters. (Facilities will be dependent on the number of visitors using the trail or other attractions in the area)

Recommended trail flow: Open and Flowing

* There may be circumstances where trails with a surface and slope similar to Class 1 exceed the suggested distance. These trails should be upgraded to Class 2 or 3.

Intermediate (Class 2)

Overview

Intermediate Trails are suitable for individuals and social groups seeking a short to medium distance trail requiring a moderate level of skill and fitness.

Intermediate Trails are likely to be a combination of single trail and/or fire road with obstacles, variable surface, and a moderate slope.

Intermediate Trails are likely to be multi-use so encounters with other users including cyclists, walkers, runners and horse riders should be expected.

Elements for classification

Corridor width: (Min.) 1.5m

Corridor height: (Min.) 3.7m

Tread width: Min. 70cm

Surface: A variable surface that may include sections of rock, sand, clay, gravel, etc. Obstacles such as rocks, logs, jumps, drop offs are likely. Shallow ford crossings

Distance: Maximum 40km

Gradient: Maximum 15%

Maximum sustained pitch 10%

Minimum turning radius: 3m

Level of skill/experience: A moderate level of fitness is required. Trail riding experience recommended

On-trail facilities: Facilities along the trail may include lookout platforms, seats, barrier rails, bridges, watering points, interpretative and/or management signs, step overs, shallow ford crossings

Trailhead facilities: The trailhead may be marked with a sign, specifying the name, distance, classification, multi-use code of conduct and other relevant information. Trailhead facilities may include car parking, map dispensers, toilets, drinking water and information shelters. (Facilities will be dependent on the number of visitors using the trail or other attractions in the area)

Recommended trail flow: Open and Flowing, with short sections of Tight and Technical

Advanced (Class 3)

Overview

Advanced Trails are suitable for individuals and social groups seeking a very challenging trail requiring a high level of skill, fitness, and possibly endurance.

Advanced Trails are likely to consist of challenging single trail and/or fire road with many obstacles, variable surface, and steep sections.

Advanced Trails may be multi-use so encounters with other users possibly including cyclists, walkers, runners and horse riders should be expected.

Elements for classification

Corridor width: Min. 1.5m

Corridor height: Min. 2.5m

Tread width: Min. 30cm

Surface: Usually a variable surface with sections of rock, sand, clay gravel, etc. Obstacles may include challenging rocks, logs, jumps, and drop offs. Fording creeks

Distance: Advanced Trails can be any length

Gradient: Maximum 20% (Max. sustained pitch 10%)

Minimum turning radius: 2m

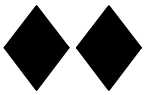
Level of skill/experience: A high level of skill and fitness is required. Previous experience essential. Map reading skills and animal health and welfare knowledge is essential

On-trail facilities: Generally, facilities are not provided except in relation to specific safety or environmental considerations

Trailhead facilities: The trailhead may be marked with a sign, specifying the name, distance, classification, multi-use code of conduct and other relevant information. Trailhead facilities may include car parking, map dispensers, toilets, drinking water and information shelters. (Facilities will be dependent on the number of visitors using the trail or other attractions in the area)

Recommended trail flow: Mostly Tight and Technical with some Open and Flowing sections

Extreme (Class 4)



Overview

Severe Trails are specifically suited to experienced riders, usually equipped with long travel dual suspension downhill bikes.

Severe Trails are usually single directional, and should incorporate warning signs to deter walkers and other users from tackling these trails.

Severe Trails are often designed specifically for downhill race events, but may be used by members of the public outside of the race events.

Severe trails should be designed and constructed so that they are environmentally sustainable.

Elements for classification

Corridor width: Min. 1m

Corridor height: Min. 2.5m

Tread width: Min. 30cm

Surface: Highly variable surface with sections of rock, sand, clay gravel, etc. Obstacles may include challenging rocks, logs, jumps, and drop offs.

Distance: Usually less than 5km and are often measured in minutes. Trails should take at least one minute, two to four is preferable in regard to the fastest riders

Gradient: 10–15% sustained pitch with some sections up to 50%

Minimum turning radius: 2m

Level of skill/experience: A very high level of skill and strength is required. Previous experience is essential and a suitable dual suspension is highly recommended

On trail facilities: Facilities needed are access to roads for shuttle runs. These trails may require additional labour to build and extensive on going maintenance due to intensive use and steep gradients. Maintenance can be minimized by trail armouring and control measures

Trailhead facilities: The trailhead will be marked with a sign, specifying the name, distance, classification, multi-use code of conduct (if relevant) and possibly management information. Trailhead signs should include strong warnings about the trail. Car parking may be required.

Recommended trail flow: Mostly Tight and Technical with some Open and Flowing sections

Appendix B: Assessment of Rider Ability

Element No.	Classification >		1 Beginner	2 Novice	3 Low Intermediate	4 High Intermediate	5 Advanced
	Criteria						
	Age		Any				
1	Fitness Level		Various		moderate to high		
2	Experience, off-road		< 5 hours	5 to 50 hours	> 50 hours	> 1000 hours	> 2000 hours
3	Skill Level	Average cross country speed capability (Rating 3 terrain)	< 10km/h	10 to 12km/h	13 to 18km/h	19 to 22km/h	> 22km/h
		Braking skills					
4		General	Often overuses brakes, often locks wheels		Sometimes overuses brakes	Minimal braking, usually well controlled	Minimal braking, always well controlled
5		Hard	No hard braking experience		Sometimes overuses brakes, occasionally locks wheels	Minimal braking, usually well controlled	Minimal braking, always well controlled
		Climbing					
6		Hardpack	Climbing ability low, may need to dismount		Able to maintain good pace	Able to maintain fast pace	Able to maintain fast pace
7		Loose					
8		Rutted/ tree roots			May sometimes baulk and lose momentum	Able to maintain good pace	
9		Wet					
		Cornering					
10		Slow speed	Cornering line selection poor and speed low, may need to dismount		Good choice of line but average speed.	Good choice of line with good speed.	Excellent choice of line with maximum speed.

Element No.	Classification >	1 Beginner	2 Novice	3 Low Intermediate	4 High Intermediate	5 Advanced
11	Moderate speed	Cornering line selection poor and speed low. Often brakes in corners		Good choice of line but average speed, may brake in corners	Good choice of line with good speed.	Excellent choice of line with maximum speed.
12	High speed	Cornering line selection poor and speed low. Often enters too fast and brakes in corners		Cornering line selection good but speed average. Sometimes enters too fast and brakes in corners.	Good choice of line with good speed.	Excellent choice of line with maximum speed.
	Descending					
13	Non-technical	Speed low, excessive braking		Good speed. Control may be limited over obstacles.	Excellent speed and control	Maximum speed and control
14	Technical			Good speed, may overuse brakes. Control may be limited over obstacles.	Excellent speed and control	Maximum speed and control
	Natural Obstacles					
15	Sand	Speed low, excessive braking, poor stability.		Good speed, some control	Good speed and control	Undiminished speed and control
16	Logs across track	Speed low, can cope with small logs, may sometimes dismount		Speed low, can cope with moderate size logs	Good speed and control over logs to chainring height.	Undiminished speed and control over all logs
17	Rocks	Speed low, can cope with small rocks, may sometimes dismount		Speed low, can cope with moderately sized rocks	Good speed and control over most rock sections.	Undiminished speed and control over most rock sections.
18	Roll-ins	Speed low, can cope with small roll-ins, may sometimes dismount		Speed good, can cope with moderately deep roll-ins	Good speed and control into most roll-ins.	Undiminished speed and control into most roll-ins.
19	Drop-offs	Speed low, can cope with small drop-offs, may sometimes dismount		Speed good, can cope with moderately high drop-offs	Good speed and control over most drop-offs.	Undiminished speed and control over most drop-offs.
20	Water crossings	Speed low, can cope with shallow water and narrow creek-beds, may sometimes dismount		Speed good, can cope with moderately deep water and wide crossings	Speed good, through deep water and wide crossings	Undiminished speed through deep water and wide crossings
21	Trees, adjoining	Speed low		Reduced speed through narrow areas.	Good speed through wide and narrow areas.	Undiminished speed

Element No.	Classification >		1 Beginner	2 Novice	3 Low Intermediate	4 High Intermediate	5 Advanced
22		Trees, overhanging	Speed low		Reduced speed through low areas.	Good speed	Undiminished speed
		Man-made structures					
23		Bridges	Speed low, can cope with wide short bridges, may sometimes dismount on narrow long structures.		Reduced speed over narrow or long bridges.	Good speed	Undiminished speed
24		Jumps	Speed low, will roll small jumps, may sometimes ride around or avoid higher jumps		Reduced speed over higher jumps with less control.	Good speed	Undiminished speed