

## ASF Safety Guidelines proposed Changes

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Information, such as definitions, has been drawn from the ASF Risk Management Guidelines and the Adventure Activity Standards of abseiling and caving from SA, VIC, TAS and NSW.

# ASF Cave Safety Guidelines

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See the ASF [Safety and Risk Management](#) page on the website, [www.caves.org.au](http://www.caves.org.au) for Accident/Incident form.

## Important Cautions

Please read EACH of the following important messages BEFORE reading the Cave Safety Guidelines.

## Liability of ASF, etc.

If you visit any cave, canyon, cliff or karst area or feature, YOU DO SO ENTIRELY AT YOUR OWN RISK.

Caving, cave diving, canyoning, single rope technique and other activities are INHERENTLY DANGEROUS AND RISKY ACTIVITIES.

YOU SHOULD NOT RELY ON THE Cave Safety Guidelines; they are no substitute for experience or training.

Notwithstanding anything in these Guidelines or any other guidelines or document, any representation or anything else, the Australian Speleological Federation Inc., its servants, officers, members and agents SHALL NOT BE LIABLE for:

- (a) any NEGLIGENCE in the preparation, adoption, publication, re-publication or other promulgation of these Guidelines;
- (b) any loss, damage, injury, death, accident or other misadventure arising out of, sustained during or as a consequence of, or in any way relating to any act(s) or omission(s) occurring during or prior to any visit to any cave, canyon, cliff, or karst feature or area; or
- (c) any consequence of any failure properly to have regard to and understand these important cautions.

In each of these important cautions, "these Guidelines" shall be deemed to include every copy, draft or revision of these Guidelines, and any copy or part thereof.  
If you do not completely understand these important cautions, you should seek your own, INDEPENDENT LEGAL ADVICE.

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## 1. Definitions

**Trip or Activity Leader** - is the "chief Organiser" of the club activity;

**Cave/Party Leader** - is the leader of an individual party. There may be several parties on an activity entering separate caves or undertaking different activities;

**Caver/Member** – a participant in a party or on a club activity;

**Caving Party/Party** – group of members in a cave or on a club activity.

**Activity** - all speleological events which are organised and run by ASF members, including but not limited to; ASF conferences, speleological trips, photography trips, cave diving trips, exploration trips, beginners trips, expedition trips, training and sporting trips (eg, "Speleosports" events).

## 2. Introduction

As cavers we enter an environment that provides physical and mental challenges as well as the satisfaction of personal discovery. It is also an environment that can be unremitting in its hostility to the unprepared, incapacitated or injured.

Emergency medical support, that is readily available to participants in other outdoor activities, may take many hours to reach a casualty in a cave. Obtaining and getting such aid to the casualty is only the start to what can often be the long and difficult task of returning the injured person to the surface.

Risks can be reduced to acceptable levels but never eliminated. The way to minimise risks is to undertake caving with an attitude of self-reliance, responsibility and preparedness. In practical terms this means careful planning, competent organisation, appropriate provisioning and thorough training.

### **3. Planning and Preparation**

When planning for activities of a caving nature ASF suggests members take into account the following codes produced by the ASF: Minimum Impact Caving Code; the Code of Ethics and Conservation; the Minimum Impact Code for Scientific Investigation in Caves and Karst; and the Risk Management Policy and Guidelines.

Whilst planning caving activities consider the following:

- 3.1 The ASF recognises that the minimum party size for its members participating in a club or Special Interest Group caving activity will vary depending on such factors as the size of the cave, experience of the party and activity undertaken such as surveying in proximity to another party. A minimum group size of 4 persons is suggested for a party of dependent cavers.
- 3.2 It is preferable that all members of the party have some first aid training commensurate with the activity that is to be undertaken.
- 3.3 Party members have considered the procedure(s) that they should follow in summoning help in an emergency as per the Risk Management guidelines.
- 3.4 Members of the party are familiar with the hazards likely to be encountered in the cave or caving area to be visited prior to the activity.
- 3.5 'Local' speleological groups are notified of the intentions for the activity, where practicable, such that the party can avail themselves of any advice, identify any hazards or needs for special equipment and permit regulations.
- 3.6 Sufficient equipment is taken on the activity. This includes emergency equipment and provisions, appropriate for the expected duration, hazards and the activities planned.
- 3.7 All equipment intended for use in hazardous situations is checked for suitability and/or serviceability before every activity and that damaged equipment is discarded.
- 3.8 The level of knowledge, skill and physical abilities of all party members is ascertained prior to commencement of the activity.
- 3.9 A continuous assessment is undertaken whether to continue or exit the cave or conclude the activity, with all members of the party consulted.
- 3.10 The extent of self-rescue that could be affected by the party with the equipment available should be determined, as should the time delay to be expected before a full rescue operation could be expected in case of mishap.
- 3.11 Cavers attempting demanding caves and/or caves in remote areas should pay special attention to training and practice prior to the activity.
- 3.12 Details of the intended activity should be left with a responsible person or the appropriate authority for the region where the activity is planned.

- 3.13 A realistic expected return time for the intended activity should be determined, adding a factor for unexpected delays, as well as a time to commence a search and rescue.
- 3.14 Parties should have a designated Party Leader and identify a member to act as a Deputy Party Leader in case the party has to be split or in case of an emergency.
- 3.15 Clubs should have a system to train members and appoint leaders.
- 3.16 A first aid kit is within easy reach of the party.
- 3.17 Other items that should be available on the surface includes:
- (a) A Comprehensive First Aid kit –
  - (b) Sleeping bag and mat;
  - (c) Food, fuel stove and water;
  - (d) Adequate communication (with land owner or emergency services by mobile or satellite phone) as assessed in the risk assessment plan will be available to the parties.
- 3.18 All members of the party must be able to gain access to cars carrying support equipment.
- 3.19 Critical factors that would mean abandoning the activity or turning back are discussed before commencing the activity. For example, high water levels and threatening weather conditions.

## **4. Party Leader's Responsibilities**

The ASF advise the Party Leader:

- 4.1 Is generally the person with the most experience in that particular cave, caving area or for the activity to be undertaken.
- 4.2 Holds a briefing prior to commencing the activity to reiterate risks and responses, if required, due to an accident or abandonment of the activity due to weather.
- 4.3 Undertakes the lead role in monitoring and maintaining the happiness, safety and well-being of the group.
- 4.4 Has the final decision as to who is considered properly equipped, trained and physically fit to be included in the activity.
- 4.5 To inspect personal equipment and provisions, if necessary, for suitability for the proposed activity.
- 4.6 Uses their experience to decide the time and circumstances under which the objective of the activity is changed or abandoned and members conclude the activity, such as returning to the surface.
- 4.7 In emergency situations, assign tasks to the most experienced or qualified party members, for example first aid, rigging or exiting the cave to summon assistance.

- 4.8 Assist statutory authorities if an emergency situation occurs;
- 4.9 As part of Risk Management, report any incidents to the ASF Safety Convenor.

## **5. Individual Responsibilities**

The ASF advise cavers/members of the trip to:

- 5.1 Be aware of the nature and risks of the activity to be undertaken and are competent to undertake such an activity.
- 5.2 Have the knowledge, abilities, skill and equipment to safely attempt the activity.
- 5.3 Remain as an interconnected group and party members be aware of each other's position and physical condition.
- 5.4 Not get into situations beyond their capabilities.
- 5.5 Freely inform other party members:
  - (a) of any medical condition;
  - (b) If under any medication, detail dosages, times to be taken, location of medication among equipment, and effects if dosages are missed;
  - (c) But members should maintain this confidential medical information.
- 5.6 Not enter a cave or undertake an activity if they are under the influence of alcohol, recreational or illegal drugs or other medication that may affect their performance.
- 5.7 Know how to use all the safety/vertical equipment needed for the activity.
- 5.8 Indicate any uncertainty about procedures or equipment to be used before the activity or encountered whilst using these on the activity.
- 5.9 Inspect all rigging and associated vertical equipment before use. (You have the right to ask for extra back-up, or re-rig the pitch after consulting with other party members, and ideally the person who completed the rigging.)
- 5.10 Ensure you are properly equipped for the activity.
- 5.11 Conclude their participation, if they wish, in an activity for whatever reason, and should communicate their desire to the Party Leader immediately. See item 3.9. This may mean the abandonment of the activity or see that member escorted from the activity with sufficient other members of the party.

## **6. Personal Equipment**

- 6.1 The ASF advise the following personal equipment be carried or worn as appropriate to the cave to be visited:

- a) A helmet with a rigid chin strap (that meets Australian Standard AS1801 which complies with the UIAA standard or is 'CE' approved is preferable).
- b) Reliable independent primary and secondary light sources with appropriate spare globes and batteries.
- c) Adequate clothing for the activity being undertaken.
- d) Adequate footwear, preferably boots offering ankle support and protection are worn.
- e) Gloves to keep hands clean, dry and protected.
- f) Small first aid with a space blanket
- g) An available penknife and whistle (See SRT section).
- h) Spare globes, batteries and a 3<sup>rd</sup> light source.
- i) Food and water appropriate for the duration of the activity.
- j) A watch.
- k) A notebook and pencil.
- l) A roll of electrical, sports (or other similar) tape

6.2 Other personal equipment that may be carried depending upon the conditions:

- a) Waist tape (5m x 50 mm webbing or 25 mm tube-tape).
- b) A short hand line or extra rope.
- c) Extra clothing such as thermal underwear and beanie.
- d) Camera

## **7. Climbing and Calls**

The ASF advise the party members be familiar with the following if undertaking vertical caving:

- 7.1 A belay rope should be used on pitches where a ladder is used.
- 7.2 Any member requesting a safety line (belay) at any time, is entitled to receive a safety line.
- 7.3 There should only be one person on a climb at a given time.
- 7.4 The Party Leader ensures that all members understand and use the agreed-upon climbing calls.
  - (a) "GEAR CHECK" – advise party members that you are ready and request an independent check that your gear is safe.
  - (b) "ROPE BELOW" – A warning that a rope is about to be deployed down a pitch or received from above.
  - (c) "ON BELAY" – advising all members that the climbing person is attached to the rope.
  - (d) "TAKE IN" or "UP ROPE" - The person climbing wishes the belayer to 'take in' or eliminate excess rope before climbing.
  - (e) "THAT'S ME" - The rope is tight for the person climbing and not caught on an object.
  - (f) "CLIMB WHEN READY" - The belayer acknowledges the climber's call and instructs the caver that they are safe to climb.
  - (g) "CLIMBING" - The climber has heard the call 'CLIMB WHEN READY' from the belayer and is informing them that they have begun the ascent or descent.
  - (h) "UP ROPE" - If the climber needs the rope tightened.

- (i) “SLACK” - If the climber needs more rope to descend or to overcome an obstacle.
- (j) “SAFE” – The climb or descent has been completed and the climber lets the belayer and party members know that the climber is stable and has moved to a safe area.
- (k) “OFF ROPE”. (“OFF BELAY” or “ROPE FREE” may be localised terminology) – The climber informs the party that the belay is no longer operational and that they, the climber, has detached themselves from the rope.
- (l) “BELOW” - A warning that there is something falling. It may have been dropped or dislodged during the climb. DO NOT LOOK UP, tuck your head in and if possible cover your neck with your hands or quickly duck under an overhang or get as close to the wall as possible.
- (m) “STOP” – indicates that a problem exists and is called by any member for all to cease movement. Absolute quiet is to be maintained until further communication is recommenced.

## **8. Single Rope Techniques (SRT)**

The ASF advise:

- 8.1 members engaging in vertical caving activities be able to tie the following knots:
  - (a) Tape knot
  - (b) Figure-8 Loop
  - (c) Double Fisherman’s bend
  - (d) Alpine Butterfly
  - (e) Prusik knot
  - (f) Italian friction hitch (Munter Hitch)
- 8.2 SRT is practised before entering a cave.
- 8.3 Appropriate calls from 7.5 above are used.
- 8.4 Cavers become proficient in the following:
  - (a) Fitting of SRT harness and safe attachment of equipment.
  - (b) Crossing re-belays, rope-protectors and re-directions.
  - (c) Changing from descent to ascent and vice versa.
  - (d) Crossing knots - both ascending and descending.
- 8.5 Each member of the party should have their own personal equipment and that sharing is unacceptable.
- 8.6 Gloves are worn when engaging in SRT.
- 8.7 Long hair should be tied back, beards trimmed and loose jewellery removed. There should be NO loose clothing.
- 8.8 Both ascending and descending equipment always be carried, irrespective of which direction you are heading. The gear should be arranged so that it is ready to be used to reverse direction without delay.
- 8.9 Two or more ascenders must be attached independently to the seat harness in an ascending

rig, such that if either fails or is accidentally disengaged, the caver will remain upright.

- 8.10 There should be two points of attachment to the rope all times when ascending that is, 'cowstails' should be used when crossing knots, rebelayes or rope protectors or transferring to tails at the pitch heads.
- 8.11 A variable friction device is preferable for abseiling, such as a rappel rack, Whaletail or a bobbin style device. (Figure Eight, Harpoon devices and the "classic" style are not recommended.)
- 8.12 Rigged ropes should have a knot tied in the end to prevent accidentally abseiling off the end. A Figure-8 Loop or barrel knot is recommended. It is preferable that the first person to descend a pitch have excess rope in a pack attached below the person.
- 8.13 Every person descending or ascending a pitch should check their personal equipment for correct setup including a whistle and knife, the rigging, paying particular attention to anchor points, karabiner gates, knots, rope protection, free hang and length of rope.
- 8.14 A call of "OFF ROPE" should be used both ascending and descending when the caver has detached themselves from the rope.
- 8.15 Whistle signals should be used on pitches where voices cannot be heard (for example near waterfalls). If different whistle signals are used because of 'local rules', each member of the party should be told what the communication will be before entering the cave. See 8.16 and 8.17 below.
- 8.16 On long or wet pitches where there is difficulty hearing voice or whistle calls, radio communication should be employed.
- 8.17 Using recommended whistle signals (as used by emergency services trained in Vertical Rescue national competencies):
- (a) One short blast STOP
  - (b) Two short blasts HAUL
  - (c) One long blast LOWER
- 8.18 Examples of local rules may be:
- (a) A series of long continuous blasts HELP
  - (b) 3 short blasts OK/SAFE or
  - (c) 3 loud whistle blasts be used in place of the call of "OFF ROPE".

## **9. Caving in Toxic Air (commonly referred to as Foul Air)**

The ASF recommends that:

- 9.1 Cavers understand that foul air is an atmosphere which contains greater than 0.5% carbon dioxide (CO<sub>2</sub>) and/or lower than 18% oxygen (O<sub>2</sub>) by volume.
- 9.2 Cavers recognise the signs of brief exposure to foul air as a rapid increase in the heart and breathing rates as well as the more serious signs of prolonged exposure that could lead to

some or all of the following:

- (a) Increased heart and breathing rate
- (b) Lack of attention to details
- (c) Clumsiness
- (d) Fatigue
- (e) Anxiety
- (f) Severe headaches and in some cases nausea.
- (g) Asphyxiation and
- (h) Death

9.3 The Party exit the cave promptly and without panic when the presence of toxic or foul air is suspected.

## 10. Cave Diving

The ASF recommends that:

- 10.1 Those people wishing to undertake cave diving in water filled passages/caverns using SCUBA or other supplied breathing apparatus, are properly trained and certified by a body such as the Cave Divers Association of Australia (CDAA).
- 10.2 Cave divers follow the Safety Guidelines for cave diving, which are contained in the [ASF Cave Diving - Code of Practice](#) (1988).

## 11. Free Diving

The ASF recommends that:

- 11.1 Cavers wishing to explore caves using breath-hold diving of (relatively) short water filled passages, without the use of supplied breathing apparatus, most commonly practiced in the free diving of sumps use a safety guideline.
- 11.2 Cavers follow the Safety Guidelines for free diving that are contained in the [ASF Free Diving - Code of Practice](#).

The ASF has adopted Alan Warild's [Vertical](#), 5<sup>th</sup> (and later) editions published by Alan Warild 2007, as its reference guide to vertical caving