

Canyoning in New Zealand



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REPORT FOR:

WATER SAFETY NEW ZEALAND

NEW ZEALAND OUTDOOR INSTRUCTORS ASSOCIATION

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Cover photo: Stewart Creek, Haast Pass. Photo: Daniel Clearwater

Executive summary

The sport of canyoning is booming in USA and Europe. New Zealand has huge canyoning potential and the sport will almost certainly boom here over the next couple of years.

Educational canyoning activity appears to have dropped a little since the Mangatepopo accident but will likely build up again.

Commercial canyoning seems to be operating with solid safety standards but the sport will need the professional operators to drive standards for educationalists and recreationalists, as in any field.

NZOIA's caving qualifications may be the best qualifications to adapt for the sport, but the canyoning experts should determine this themselves. Supporting them to form some form of national entity could be a good first step.



Cross Creek,
Wanaka
Photo: Daniel
Clearwater

Recommendations

I recommend that:

1. A canyoning workshop is supported

- This could be at Murchison, facilitated by Mick Hopkinson (New Zealand Kayak School), with a focus on the group sharing knowledge rather than the traditional course model
- It should be a broader group than that which came together in the spring of 2009 for the rope techniques course: invitations should go to all companies listed in Appendix B plus Van Watson or Angus Stubbs (Black Water Rafting), and Daniel Clearwater and Toine Houtenbos
- The workshop could run for two and a half days: two days for setting and documenting national standards for canyoning water travel and rescue; half a day for the forming of a national entity (see recommendation 2)

2. The forming of a national entity is supported

- This could be a shared project with organisations such as SPARC and Skills Active or it could involve simply setting up an arm of the New Zealand Rafting Association or a committee of NZOIA
- It could be for both commercial and recreational canyoning, although the New Zealand Rafting Association and NZOIA are only for professional operators – the New Zealand Speleological Society (NZSS) may be another option for the recreational group

3. Daniel Clearwater is supported to produce a guidebook

- This could include sections on safety and training opportunities

4. The canyon web group is encouraged to become a member of Water Safety New Zealand (WSNZ)

- This would connect recreational canyoning with support agencies and enable WSNZ to keep up to date with developments, promote training opportunities, and offer support
- The web group can be found at:
http://groups.yahoo.com/group/kiwi_canyons/

5. A web-based canyoning resource is established on a national outdoors organisation's website, eg WSNZ, ONZ

- This would collate canyoning information, including manuals, guidebooks, courses, and flow information (see recommendation 6)

6. Early warning system information is collated for canyons

- Rising water levels are probably the greatest hazard in canyoning, and accidents suggest that trip leaders can't always predict them and have limited options tools and techniques to deal with them
- Flow data for major rivers tends to be available, particularly through regional councils. However, smaller narrow-sided streams tend to be idiosyncratic, not always exactly following the water-flow patterns of the rivers they flow into. It'll take time and organisation to build accurate information, starting with canyons used commercially, that will enable canyoners to make more informed judgements on whether or not to enter a canyon. At best, New Zealand is at the stage of collecting current river level data and far from the next (and much more important) stage of determining whether the river level is rising or falling.

7. As part of training, a decision-making tool for recreationalists is developed along the lines of those being trialed in the avalanche-training field

- These rules-based approaches encode expert knowledge in a tool for less-experienced people (see Appendix C)
- A canyoning travel tool might include consideration of weather (past, current, and future), river level (assuming reliable flow gauges), river-level trend, any local flow and hazard characteristics, technical requirements, trip seriousness, and group strength

Project aims



Cowan Stream, Waitakeres. Photo: Cam Bowen

The project aimed to establish:

1. The level of canyoning activity in New Zealand, that is:
 - How many people are involved annually
 - Where canyoning is occurring
2. What types of organisation are involved.
3. What types of terrain are used, eg canyons that require:
 - Walking, wading, and river crossing only
 - Ropes (abseiling, lowering, climbing, traversing)
 - Swimming (and possibly sliding and jumping)
4. Whether there are distinct levels of difficulty and risk involved in the current activity.
5. What qualifications and standards exist in other countries.
 - Whether such standards and qualifications relate to New Zealand terrain
6. Whether the level of activity and risks warrant establishing national standards in New Zealand, considering whether:
 - Current qualifications in related disciplines could be adapted to meet any possible need
 - A hierarchy of qualifications is required to cater for different levels of difficulty and risk

What is canyoning?

There's overlap among canyoning, caving, cave rafting, cave tubing, and tramping, making a definition of canyoning difficult. 'Coasteering', involving traversing rocky coastlines, also has some similar elements.

Canyoning is sometimes referred to in New Zealand as 'gorge trips', 'steep creeking' (in at least one outdoor centre), and in the USA as canyoneering. Some people describe canyoning as 'caving in the sun'; some describe caving as 'canyoning with a roof', suggesting that canyoning and caving are closely related. Modern canyoning techniques tend to stem from caving practices.

Rushing water and steep sides

Common denominators to these activities is water (or the potential for water), and steep valley sides that limit exit options. Canyons and caves are usually carved by water and, in most cases, rising water level is a hazard (the odd exceptions being routes along old valley and cave floor levels that floods no longer reach).

In most of Australia, much of the USA, and sometimes in New Zealand, canyons typically carry low volumes of water, or even no water at all. Their greatest hazard is occasional flash flooding. However, New Zealand canyons typically have considerable rushing water, which requires an understanding of water hydraulics.

The sport of canyoning

While a canyon refers to an incised, river valley with steep sides, the sport of canyoning tends to focus on those canyons with drops that require ropes, jumps, slides, and swims ('vertical canyoning'). A leading New Zealand recreational canyoner sums it up as follows:

As far as I am concerned, the term 'canyoning' refers to travel down any stream by foot that requires technical equipment and/or ability.

Sure, a 'slot' canyon with 30m walls and only 1m in breadth is a true canyon, but excellent adventures can be had in a steep mountain stream that passes through gorgy sections. They don't have to be steep necessarily, only to have rappels, technical down climbs or technical slides/jumps/swims.

If I have to take rappelling gear and there are places along the way where escape is impossible (due to steep slippery walls on either side) then I'm going canyoning.

Floating or swimming through a gorge with tyre tube and/or wetsuit is more 'gorging' or 'tubing', a sport which seems to have a bit more followership in NZ amongst keen tramping types.

Daniel Clearwater: http://groups.yahoo.com/group/kiwi_canyons/

Levels of difficulty

Canyoning grading systems tend to consider a variety of factors, recognising each in an overall alpha-numeric grade.

Australian classification

The Australians grade canyons 1–6, using these factors:

- The difficulty of navigation to and from the canyon
- The difficulty of selecting rappel rigging points and arranging the rigging
- The height, strenuous, and exposure of the rappels
- The difficulty of the exit climb out of the canyon
- The length of the trip

It's striking that water difficulties aren't considered, making the system of little use to New Zealand.

European classification

There's more than one European grading system but the French system is the most widely used. For more detail, see:

<http://coloradocanyons.org/ffme-classification-system.php>

The French grade canyons this way:

- The letter 'v' (verticale) followed by an Arabic numeral 1 to 7 for the difficulty of the vertical component
- The letter 'a' (aquatique) followed by an Arabic numeral from 1 to 7 for the water difficulty
- A Roman numeral for the commitment and scale, from I to VI

Potentially, all three components are open-ended. The grading elements of a 'Difficult' (mid-scale) canyon are noted below.

Vertical component

Grade 4:

- Low to moderate vertical flow that can begin to cause imbalance or entrapment
- Rappels anchors are difficult to reach and/or rappels are greater than 30 metres
- Setting handlines is difficult
- Multi-pitch rappels with relatively spacious re-belay stations

- Rough rock edges requiring rope wear management
- Rappels with obscured sections and/or landings pools – landing pools have current
- Climbing to grade 15 or A0, requiring belaying and protection

Water difficulty

Grade 4:

- Prolonged immersion in cold water
- Moderate current in places
- Simple jumps between five and eight metres
- Jumps with difficult trajectory and/or landing of less than five metres
- Siphons (underwater sections) of less than one metre in length and / or depth
- Large or steep slides

Commitment

Grade IV:

- Able to get out of a flood in less than one hour
- Escape takes up to two hours
- Total time (approach, descent, and return) between eight hours and one day

USA classification

The USA system is similar, grading for:

- Terrain / technical rope work (1–4)
- Water volume / current (A–C, with sub-categories C1–C4 depending on current strength)

There are two further optional elements:

- Risk / seriousness: an optional letter/s, eg PG for parental guidance suggested (sic)
- Time / commitment

Sylvia Canyon, Lewis Pass

This canyon is used by an outdoor centre, although only with adults. Access involves a major river crossing.

The canyon is short (about 300 metres) with two fixed lines, two abseils, and two escape points (one of which requires belaying). Daniel Clearwater graded it v3a3I.



Sylvia Falls,
Lewis Pass
Photo: Daniel
Clearwater

Private recreationalists

What's happening overseas?

Canyoning is a booming sport overseas.

Europe

Canyoning associations exist in most European countries, along with guidebooks and manuals for recreationalists, and a large canyoning tourism industry. It's been described as "the fastest growing adventure sport in Europe". For descriptions of 1800 canyons in 25 countries around the world, see www.descente-canyon.com (in French).

In 1999, 21 people (including 14 Australians and two New Zealanders) died in a flash flood on a commercial trip at Interlaken, Switzerland. There's some sense that this accident not only raised the profile of the sport, it attracted more participants to canyoning, on both commercial and private trips. One outcome of the accident was mandatory qualifications for canyoning guides in France (sic).

USA

Recreational canyoning has grown to the point that in Zion National Park permits are required. The land manager limits numbers to the two main canyons through a lottery system, which allows about 70% of applicants to enter the canyons. The American Canyoneering Association (ACA) has taken a strong lead in courses for recreationalists.

An American manual exists: Black, D. (2007). *Canyoneering. A Guide to Techniques for Wet and Dry Canyons*.

Australia

Canyoning is an old sport in Australia. However, the nature of Australian canyons varies from New Zealand canyons. Typically, they carry low volumes of water and might be better characterised as abseiling and difficult hiking trips. However, as with virtually all streamways, they have the potential for flooding.

What does this indicate for New Zealand?

New Zealand will experience a canyoning boom. One comment was there are over 1,000 rivers on the South Island West Coast alone, and many of them would have canyons suitable for the sport.

Our canyons do tend to have high-volume water flows and are cold compared to many overseas canyons. However, neither factor should impede the growth of the sport.

- High-volume water flows are attractive in their own right, not only visually but also because they facilitate sliding and jumping. New Zealand canyons are world class on these measures.
- The cold factor is largely negated by modern wetsuits. The commercial trip I experienced involved spring thaw in Central Otago, yet many additional jumps were taken by clients who were mainly from very hot countries.

However, the requirement for a high 'entry-level' of skill will slow growth, at least for a while. There aren't many easy canyons that people can practise in compared to Europe, USA, and Australia. There will be easy trips in New Zealand, but they're yet to be discovered or become well known. There needs to be more easy trips before the sport will really take off.

Organised activity

A web group is active: see

http://groups.yahoo.com/groups/kiwi_canyons

It has 137 members, about half of whom live overseas. They share information, eg trip reports, and organise trips. It's been described as a 'tenuous community' but it's a modern form of the traditional New Zealand club scene, serving members' interests as much as they want it to. There's some overlap with the caving community.

A review of the information available shows how the sport has spread throughout the country. Information is available on canyons in these areas:

- | | | |
|-------------------|------------------|--------------|
| • Auckland | • Tararua Ranges | • Lewis Pass |
| • Coromandel | • Kahurangi | • Haast Pass |
| • Hawke's Bay | • Abel Tasman | • Timaru |
| • Central Plateau | • West Coast | • Queenstown |
| • Manawatu | • Arthur's Pass | • Wanaka |
| • Kapiti Coast | • Mt Somers | • Fiordland |

Anyone (including commercial operators) can apply to join the group and access this information. However, the moderator (Daniel Clearwater) has posted this message for new members:

Hi there, thanks for your interest in kiwi canyons.

To remain an approved member, you must agree with the following disclaimers.

Canyoning is a dangerous sport. The skills required to descend safely are unique to the sport of canyoning. They are on a par with technical mountaineering for rope work and with whitewater kayaking for appreciation of hydrological dangers. We highly recommend that you take an approved course of training, or go with a guide or experienced canyoner whilst you are learning.

Access is often a sensitive issue. You must not post messages that illicit questionable practices and/or contempt for private property. Anyone doing this will be removed from the group. In particular, where access is noted as being across private land, the appropriate permissions are sought.

You are responsible for your own safety, and for the continued growth of the sport in NZ. Don't be an idiot, use the group to learn more, meet friends and canyon safely and responsibly.

Guidebook

Daniel Clearwater plans to use the information he has posted on the website to publish a hard-copy guidebook.

My experience from rock climbing is that guidebooks transform a sport. Knowledge held by a small, highly active group becomes common knowledge and brings many people into the sport. When guidebooks are written responsibly (accurately and noting known hazards as well as access and environmental issues), they contribute to the sport. There are always detractors who want to avoid prime sites becoming popular, but guidebooks are inevitable and guidebook writers should be supported to do the job well. This should include Daniel's idea of incorporating instruction and safety components.

Increasing awareness

Besides the web group, information about specific canyons is spreading by word of mouth. As commercial and educational operators develop activities, other groups learn of them, eg:

- Blue Canyon in the Waitakeres regularly sees recreationalists, some of whom have been down previously with Auckland University of Technology (AUT) or a commercial operator.
- The Mangatepopo was once used by OPC only but ex-staff and students began using it independently of OPC, eg Plateau Guides, Adventure Specialties, and the Blue Mountain Adventure Centre.

- The Mangahouhounui stream (a tributary of the Poutu Stream that flows into the Tongariro River) was used by OPC on a course recently and other groups soon followed.
- Recreationalists will sometimes go into the canyons used by the Queenstown and Wanaka commercial operators, using the fixed bolt anchors and the odd rope they leave in place. The commercial operators are relaxed about this, although there's little they could do about it.
- Various other commercial operations use canyons that have yet to become public knowledge. It won't stay that way.

There are potential tensions on public land. In the Waitakeres, commercial operators will sometimes encourage private groups to use their ropes to clear the area more quickly. In the Merino Mountains, a commercial operator is attempting to keep the canyon he uses quiet to avoid public use and possible liability if, for example, anchors failed. However, overall, there's little people pressure at present and orderly shared use is the norm.

Educational activity

How common are canyoning trips?

I received approximately 35 emails from NZOIA and EONZ members noting canyoning trips by educational groups, many querying the definition of canyoning.

The Sir Edmund Hillary Outdoor Pursuits Centre Training Manager noted that most outdoor centres have a canyon trip of some type, often inspired by people's experience in the Mangatepopo Gorge. Often the trips will be technically easy and better described as gorge walks. Many will involve at least one abseil, which may be the main attraction.

Canyons or gorges are attractive sites for educational activities because they're novel, engaging, and committing (at least in perception). It's usually easier to motivate groups on a gorge walk than on a bush walk, but the risks tend to be higher given the water hazard, poor communications, and the seriousness if the instructor were incapacitated. One teacher reported that he takes students down Blue Canyon in the Waitakeres, one of the commercial venues, but he has commercial canyon guiding experience in New South Wales. Kiwi Adventure Company takes school students down the Upper Esk River.

However, it appears that many education centres and contractors have pulled back from canyoning since the Mangatepopo accident. Sometimes this has been due to students choosing other activities, probably in response to the accident. However, this is not always the case, one Dunedin operator noting that there has been no drop off in his business with schools.

Tertiary programmes

Canyoning doesn't yet appear strongly in tertiary outdoor recreation programmes, but there has been some activity, eg:

- Neil Foxcroft (CanyonZ) takes AUT second-year students on a two-day course.
- Aoraki Polytech (Timaru) sometimes extend their tramping trips to canyons, eg Woolshed Creek (Mt Somers) or Scotsburn (Mt Peel).
- Wayne Darlington (Waitomo Adventures) ran a caving course for three years through Wintec, using the Waitomo Guides standard. This would be applicable to canyoning too. The material is the basis for caving unit standards administered by Skills Active.
- Toine Houtenbos – toinehoutenbos@hotmail.com – has approached CPIT and Aoraki Polytechs to run a canyoning module. However, CPIT is currently pulling back from canyoning (they

placed bolt anchors in Woolshed Creek on Mt Somers and took students down that canyon for a couple of years), being unsure how it fits their programme objectives. Aoraki is showing interest. Toine has worked as a canyon guide in Europe, South Africa, and New Zealand, and is working on setting up courses for recreationalists.

- OPC is a Private Tertiary Establishment (PTE) and has used various canyons as part of TEC-funded courses.

Risk management planning

There are questions around how well the educational sector has planned risk management in gorge or canyon trips.

Typically, there's a focus on technical matters, particularly rope techniques such as handlines, abseils, and the odd zip line. Many educationalists would expect to be comfortable with these techniques, given that Rock qualifications comprise 45% of all NZOIA qualifications awarded in the last decade. However, while canyoneers use the basic tools that climbers do, they're different in subtle and important ways. Rock climbers need education before using ropes in canyons, although they adapt quickly.

Some educationalists may have paid less attention given to water hazards, communications, and emergency procedures. Possibly, the 2008 Mangatepopo accident may have changed that. Although the Mangatepopo Gorge hasn't traditionally been referred to as a canyon but rather as a gorge trip, the accident is regularly referred to as a canyoning accident, making 'canyoning' a concept that parents may worry about. It may be that some organisations are avoiding the term as a result, preferring 'stream trip' or similar.

School and youth trip accidents

In the UK, the term 'river walk' is sometimes used, as in the Stainforth Beck accident (2000) where two girls were drowned in a flash flood. Negotiating 'drop / pool' gorges is sometimes referred to as 'plunge pooling' in the UK, as in the Glenridding Beck accident (2002) where a boy drowned after a four-metre jump into cold, turbulent water.

In his study of fatal incidents on school and youth group camps and excursions in Australia between 1960 and 2002, Andrew Brookes found 11 river-current fatalities, but none was classified as canyoning (one was classified as caving). However, nearly all "involved heavy rain and elevated water levels". Although kayaking and canoeing involve potential entrapment of the boats, Brookes notes that most river accidents involve a moving-water hazard irrespective of the type of activity they were involved in.

In New Zealand, a secondary school student died in the Mangatepopo Gorge in 1976 (trapped under a log in a slightly higher than normal flow) and the 2008 flood accident is well known but not yet understood. Other events are better described as incidents, eg a 2007 rescue of a secondary school group from Waipu Cave (Northland), an example of a group being caught by rising water levels, in this case in a cave not a canyon.

See Appendix C for an example of an aid for travel in snow terrain that could be adapted as one tool to counter accidents such as these.

Commercial operators

See Appendix B for details of commercial operators.

Activity categories

I see three types of commercial 'canyoning' operator: canyoning specialists, canyoning add-ons, and cave rafting / tubing trip operators. In addition, there are caving trip operators.

Canyoning specialists

There are four main operators in New Zealand: Deep Canyon (Wanaka), canyoning.co.nz (Queenstown), AWOL Adventures (Auckland), and Canyonz (Auckland), all of whom have been operating for a long time. They are canyoning specialists. I visited all four operators and joined in on one of the Queenstown trips. They all tend to have international contacts, usually employing some guides from overseas, eg France, Austria, Switzerland, USA, Japan, and Chile.

My sense is that they're professional operators and key to the safe evolution of the sport in New Zealand.

Canyoning add-ons

In addition, some relatively new operators are appearing (Napier, Lower Hutt, Nelson, and Ross). One contractor told me that he had worked in five Central North Island canyons for four different companies. I've no reason to believe that these operators are any less professional but they do tend to offer canyoning as an extra activity to their main activity, or as one activity in a range of options.

Cave rafting / tubing operators

Commercial canyoning numbers total about 5,500 clients per annum, which is small compared to this group. Black Water Rafting at Waitomo, one of the oldest and most respected adventure tourism operations in New Zealand, is guiding 70,000 clients per annum. They're just one of three big companies based at Waitomo, although the other two companies (Waitomo Adventures and Rap, Raft 'n' Rock) offer more than just cave rafting. Waitomo Adventures do send their guides to a swiftwater course (run by Peak Safety) and encourage guides to work in Europe and Turkey, usually canyoning, so the overlaps are obvious.

In the South Island, Norwest Experiences (Charleston) guide 10,000 clients per annum (mainly though the Nile River) and Dragons Black Water Cave Rafting Company (Greymouth) guide an estimated 5,000 clients per annum (mainly through Nelson Creek and an old gold miners' tunnel).

The latter offers an abseil option to a river and cave trip, but the abseil doesn't involve water, being down a dry cliff to the riverbank before the river trip begins. It's abseiling, not canyoning. Similarly, Black Water Rafting offers an abseil to a dry ledge followed by a jump into water if the situation allows. Norwest Adventures send all new guides on a swiftwater rescue course at the New Zealand Kayaking School at Murchison.

Although the trips these companies offer aren't canyoning as defined above, they:

- Anticipate river flows in every way they can, just as canyon guides need to.
- Manage most of the same water hydraulic hazards that canyoning operators manage, eg Waitomo Adventures advertise one trip this way:

Imagine Indiana Jones abseiling in a washing machine. That's the Haggas Honking Holes—Waitomo's most concentrated action adventure. Four abseils, rock climbing, waterfalls and fun.
- Expose many more people to these hazards than canyoning operators do.
- Often use the term 'canyoning' to attract customers, eg a metatab that brings their websites up on internet canyoning searches.
- Have influenced canyoning rope techniques, eg Waitomo Adventures and Black Water Rafting experience has flowed through to the course Dave Ray led for the commercial canyoning operators in the spring of 2009 and, subsequently, to their staff training.

Caving operators

These companies manage varying levels of water hazard. Some companies, eg Green Kiwi Tours (Punakaiki) offer dry-course trips only, although the cave they use (Xanadu) can flood and there are varying views on how quickly that can happen. Most companies will have a dry cave option, eg Norwest Adventures (Charleston) has a local glow worm cave; Waitomo Adventures offer five trips, two dry-course and three involving water.

A professional lead

As the sport blooms in New Zealand, experienced professionals will set the standards. This is the case in any field. It obviously is critical that experienced operators influence new operators but, more importantly in my view, they need to influence the wider sport: educationalists and recreationalists.

For this to occur, they need more structure than they currently have. This would start with a professional entity.

Rope skills initiative

In spring 2009, the four main operators initiated a four-day workshop in Auckland on rope techniques, facilitated by Dave Ray. Dave has guided extensively in European canyons, guided in Waitomo caves, and taught vertical rope skills at Tai Poutini's Auckland campus. This course was well received and the operators:

- Were exposed to a structured training programme that most have adapted for their guide training programme.
- Loosely agreed on a follow up gathering involving water skills.
- Discussed the forming of a professional association.

Water skills

Two of the four main operators have a rafting background and all have guided canyoning trips for many years. However, their positive experience around the rope skills course led to interest in doing the same for water skills.

This is not to say that swiftwater training is the complete answer. Van Watson (Black Water Rafting) argues that swiftwater rescue techniques are not the answer to preventing drownings. He estimates that less than 5% of swiftwater rescue events lead to a saved life. Instead, the emphasis should be on broader issues, starting with the business-owner's knowledge and understandings.

A professional entity

Professional associations aren't easy to establish. Some operators aren't interested, thinking that an association is an unnecessary complication to their work. However, the wider sport, rather than these experienced operators themselves, would benefit from a well-functioning national entity.

Recently, commercial river-boarding operators attempted to set up an association but then merged with the New Zealand Rafting Association. That could be an option for canyoners, assuming the association is prepared to accommodate them. A subcommittee of NZOIA is another option for the commercial operators if they wish to develop national qualifications. A driver for this would be to enable New Zealand canyoning guides to guide overseas.

Documenting national standards, and training new operators, educationalists, and recreationalists would be highly desirable outcomes that could save lives.

Qualifications

See Appendix A for details of existing qualifications.

A standards setting body

Ideally, any canyoning qualification in New Zealand requires a professional body to set and regularly review the standards. It may be administered by NZOIA but there should be a partnership with canyoning experts. There's mixed interest among the four main commercial operators although there's agreement that a qualification would make life easier for them in terms of guide training.

Neil Foxcroft at Canyonz is the most interested, although he feels he would need support to form and lead a national entity. Mike Enright (Canyoning.co.nz) is also interested. Daniel Clearwater and Toine Houtenbos are interested in such a body having both professional and recreational arms, and the canyon web group is the basis for the latter.

Do we need qualifications?

Although there may not be a great need for the main commercial operators to have qualifications, there are reasons to establish them:

- The sport involves serious hazards, which require training and experience to manage safely. The American Canyoneering Association website states:

Canyoneering has enjoyed a tremendous surge in popularity over the past few years. Unfortunately, many of the people who are discovering this exciting adventure sport remain unaware of the inherent risks and the complex technical skills required to enjoy it safely. The rope skills learned from rock climbing and rappelling are a good start, but will prove to be inefficient and sometimes dangerous in an aquatic or semi-aquatic canyon environment.
- New operators will enter the market and they're unlikely to all have the same skills and experience as the current operators.
- Canyoning as an educational activity is likely to increase and will see a need for standards in the education sector, and qualifications are the clearest way to set standards.
- The likely boom in canyoning recreationalists in New Zealand should be influenced by the standards of experts who are involved full time.

The commercial operators tend to not have qualifications, the odd historic Rock 1 or rafting qualification excepted. One of the smaller operators has NZOIA's Cave 1 and Kayak 1.

Which qualification?

This question is academic in that the canyoning experts need to make their own decision. However, the four main commercial operators have already begun a process of setting national standards, which could be a step towards qualifications.

Given the need to have documents in English, the IFMGA, USA, and NZOIA Caving qualifications appear to be the most applicable. However, NZMGA has no interest in canyoning and the USA qualification focuses on recreationalists and training, although professional qualifications are also offered. The USA qualifications address dry-canyon skills well, but don't adequately address the aquatic skills needed in New Zealand.

The CEC qualification is being used in Japan, but the documentation is in German. It does have the advantage of being well known and designed for canyons that are most similar to those found in New Zealand.

Given NZOIA's standing in the New Zealand outdoors and the fact that it already offers two caving qualifications, it makes sense to consider those qualifications. There are a number of considerations:

- Cave 1 and 2 focus on instructing not guiding. Van Watson at Black Water Rafting estimates that one-third of their staff have Cave 1 and they train other staff. Their core business though is guiding, which means that staff work towards Skills Active's National Award in Cave Streamway Guiding (Level 3).
- Canyoning has specialised requirements:
 - Height hazard techniques vary from rock climbing and abseiling height techniques in that clients often descend into water, requiring quick-release rope systems and minimal possibilities for snagging underwater. Neil Foxcroft has documented these techniques for his company's staff training.
 - Water rescue requirements don't involve boats and may involve different water features from standard swiftwater courses, eg jumaring a waterfall if required in an emergency exit. The caving syllabuses are light on water skills for canyon guides' requirements. They have some focus on rescue and don't necessarily marry rope techniques and water skills in the way that canyoningers do.
 - While there are generic canyon-guiding skills, many required competencies are site specific, eg where to jump, what rope technique is faster in each situation, what rocks under the surface might trap feet. This means that canyoning

qualifications, while portable, have more limitations than most outdoor activity qualifications.

- It makes sense in theory to develop common core training, which caving and canyoning qualifications could build on. Maritime New Zealand and Skills Active are currently doing this in the rafting, river boarding, and inflatable raft fields, with two generic unit standards (planning for a whitewater trip and whitewater rescue) and one unit standard specific to each activity. In practice, this may be harder than it appears.



Stewart Creek,
Haast Pass.
Photo: Daniel
Clearwater

Appendices

A. Existing qualifications

| Qualification / organisation | Base | English documents | Focus | Notes |
|---|---|--|--|--|
| NZOIA Cave 1 & 2 | New Zealand | Yes | Instructors | Not an exact match with canyoning |
| CEC: Commission Europeene de Canyon or CIC: Commission Internationale de Canyon | Germany | No | Canyon guides | Possibly the most respected qualification A Japanese canyoning company is using this qualification, involving German instructors working in English. CEC instructors have also worked in USA. |
| IFMGA International Federation of Mountain Guide Associations | European-based but international including NZ | Yes | Mountain guides who also wish to guide canyons | NZMGA has the manual but has no plans to adopt the qualification: info@nzmga.org.nz It has very clear diagrams |
| Brevet d'etat | France | No I have the requirements in English | | Mandatory – administered by the Ministry of Sport France doesn't accept other qualifications |
| SOA: Swiss Outdoor Association | Switzerland | | Outdoor instructing and guiding | Involved in more activities than just canyoning The mountain guides' association is involved |
| ACA: American Canyoneering Association | USA | Yes | Training and qualifications | Courses and qualifications for both recreationalists and professionals Also see www.alpinets.com for USA courses |
| Service Skills Australia: Canyoning Guide – Single pitch | Australia | Yes | Canyon guides in a dry climate | Also Western Australia standards (2009): www.outdoorswa.org A WA qualification is being developed |

B. Commercial operators' details

| Company | Start | Owner | Contact | Canyons | Clients p.a. | Access |
|---|-------------------|---------------------------|--|---|------------------|--|
| Deep Canyon: Wanaka | 1994 | Dave Vass | deepcanyon@xtra.co.nz | Niger Stream Big Nige The Leaping Burn Wai Rata ¹ | 1,000 | Queenstown Lakes District Council concession ² Private land (farmer) |
| Canyoning.co.nz: Queenstown | 1999 | Mike Enright ³ | info@canyoning.co.nz | Twelve-mile Delta Routeburn Rees ¹ | 2,800 | DOC concession |
| AWOL Adventures: Auckland | 1998 | Cam Bowen | info@awoladventures.co.nz | Cowan Stream: Waitakeres | 900 | Auck Regional Council licence |
| CanyonZ: Auckland | 2004 ⁴ | Neil Foxcroft | info@canyonz.co.nz | Blue Canyon: Waitakeres Sleeping God: Kauaeranga Valley | 1,100 | Auck Regional Council licence DOC concession |
| Live-Life Experiences: Nelson | 2005 | Andrew Smith | live@live-life.co.nz | Merino Mountains, Mt Owen | 30 | DOC concession |
| Kiwi Adventure Company: Napier | 2003 | David Gold ⁶ | fun@kiwi-adventure.co.nz | Upper Esk River | 400 ⁷ | Private land access (forestry company) |
| HangDog Climbing Adventures: Lower Hutt ⁴ | 2008 | Brook Powell | info@hangdog.co.nz | Dry Creek, Belmont Regional Park | 120 | DOC concession Private land access |
| Sweet As Adventures & Eco-rafting: Ross ⁸ | 1999 | Josh Marcotte | info@ecorafting.co.nz | Falls Creek, ¹ Hokitika tributary | 0 ⁹ | DOC concession |

Notes

Please see the next page

- 1 Helicopter access
- 2 Concessions usually require an independent audit of their safety plan
- 3 The Routeburn and Rees canyons are operated as a separate business with a partner
- 4 The company is older and is mainly a sports climbing company
- 5 Previously traded as 'TOP Adventures' and 'The Outdoor Professionals' who operated in Dry Creek from 1998. The current owner has had the company one year.
- 6 The owner is currently selling the company
- 7 Includes school groups, corporate groups, army groups, and general public. Occasionally, they do a lower section with groups such as the army.
- 8 Mainly a rafting company
- 9 On hold because the private road to the 'get out' has washed out and they'll look for another canyoning option.

C. Decision-making tool

Avalanche Prompt

Group decision-making tool

| | | |
|--|--|---|
| Before your trip <ul style="list-style-type: none"> • Check each person's skills, gear, & aims • Plan the trip as a group | | On your trip <ul style="list-style-type: none"> • Make decisions as a group using this decision-making tool |
| Before travelling on each snow slope | | |
| We must ask | We must consider | Notes |
| 1 Are we in avalanche terrain? | <ul style="list-style-type: none"> • Angle: 30–45 ° | |
| 2 Could the snow avalanche? | <ul style="list-style-type: none"> • Advisory • Aspect: facing the sun or facing away from the wind • Altitude • Avalanche paths • Surface signs, eg recent debris • Snowpack, eg stronger layers over weaker layers | |
| 3 Are the conditions getting worse? | <ul style="list-style-type: none"> • Heavy precipitation • Wind loading • Rapidly rising temperatures | |
| 4 What are the consequences? | <ul style="list-style-type: none"> • Terrain traps • Could someone slide out of sight? • Could we get hurt or killed? | |
| Do we go on the snow slope or is there a better choice? | | |
| Yes The hazards are acceptable | Maybe There are hazards present | No The hazards are too great |
| Use normal caution. Travel is generally safe. | Use extra caution on steeper terrain on certain aspects | Travel in avalanche terrain is not recommended |
| | As a group, consider your choices: <ul style="list-style-type: none"> • Another route, eg low-angle terrain with a different aspect • Another activity, eg on a ski area • Another day – postpone your trip | |
| Is every member of the group happy with the decision? | | |

Source: New Zealand Mountain Safety Council, Backcountry Avalanche Course