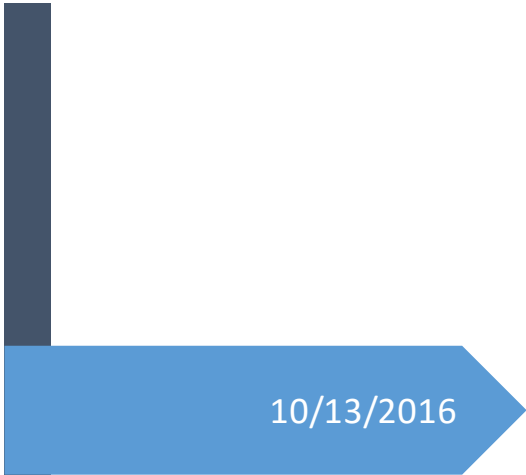
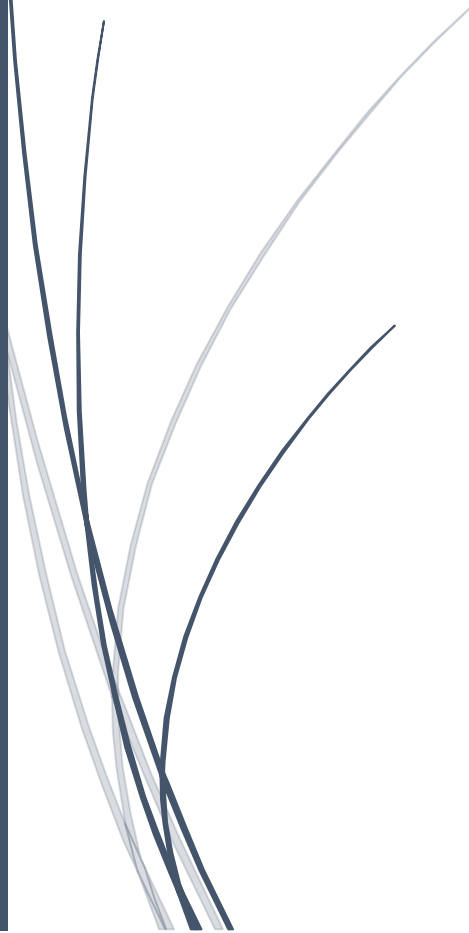


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10/13/2016

New Zealand Adventure Activities Registration Scheme A Performance Study

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Dr Shayne Galloway

GALLOWAY RECREATION RESEARCH LIMITED

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Executive Summary

Introduction

This research examined the performance of the New Zealand Adventure Activity Certification Scheme (the Scheme) during its first three years in action. This is the period during which audit bodies were directly recognised by WorkSafe NZ, prior to accreditation by a specialist third party organisation.

The purpose of this study was to examine the extent to which the current Scheme arrangements provide effective sector regulation for each of the ‘project deliverable’ topics described below. The research was conducted by reviewing audit reports, conducting interviews with sector managers at certified audit bodies and surveying adventure activity operators.

It is apparent that the Safety Management Systems (SMS) in the adventure activity space have been strengthened considerably against the standard.

Recommendations

While it is clear that the Scheme and Standard have worked to improve safety management in New Zealand adventure activity provision, there is room for further refinement.

This report recommends that:

- The Scheme and the Standard be aligned to Annex SL and ISO 21101:2014 at the next opportunity
- Further guidance on sampling be added to the Scheme
- There be continued provision of industry support, to
 - Enhance economic growth by guiding new AAOs with a clear pathway to seek registration, and to
 - Support consistent auditing of ‘good practice’.
- Susceptibility of some activities to the regulations should be reviewed and revised
- Audit body reporting requirements be further developed to support sector oversight by the regulator
- The ‘declaration of conformity’ mechanism be discontinued in the Scheme
- The regulator sponsor the development and delivery of training for TEs in the Scheme and the auditing process
- The regulator, the CABs and the AAOs seek and pursue methods to encourage sharing of certification with stakeholders, to highlight the benefits of compliance

Project Deliverables

Key findings for each project deliverable topic are as follows:

1. Consistent audit activity across the Adventure Activity Operators (AAOs) with respect to levels of non-conformance

Prior to recognition by WorkSafe as audit providers for the purpose of the regulations, the audit bodies were reviewed by third-parties (Ernst & Young, JAS ANZ) to establish their capacity to ensure consistent audit activities. The AAO survey respondents largely agreed that audits had been consistent on selected parameters.

Results show that non-conformities relating directly to operating procedures and personnel are more likely to be treated as a higher level of objective risk. Non-conformities relating mainly to documentation are generally treated as a lower level of risk. This is consistent with the intent of the Scheme and Standard.

2. Time taken for audits

Audit duration is established in the Scheme and Certified Audit Bodies (CAB) sector managers confirmed during their interviews that this table provides the basis for planning audits. Several factors can contribute to variations in the duration of an audit. Seventy-three percent of AAO survey respondents agreed that audit duration was consistent.

3. Relative cost of audits (i.e. comparing scale, scope and type of activity across CABs)

The CAB sector managers reported a range of \$1300-\$1800 in fees per auditor per day of audit activity. Charges for technical experts were reported to be 50-100% of the day rate assessed for auditors.

The CABs pass along expense costs (i.e. travel, food and accommodation) to the AAO under audit as per normal business practice. The sector managers confirmed that these rates are the same charged out to auditees in other industry sectors.

Adventure activity operations with greater scope and scale of operations incur costs in proportion to the required audit duration, number of technical experts and logistics of travel and seasonality.

Other costs incurred by the AAOs include those of consultants, engineering reports, new or modified equipment as well as manager and staff time to develop a compliant safety management system. The latter should decrease over time for existing businesses.

4. Scope of audit

The CAB sector managers confirmed that the scope of audits is determined by the Scheme. For particular AAOs a scope of audit is developed by the CAB that reflects the registerable activities of the operation. Seventy-nine percent of the AAOs agreed that audits had been consistent in their scope

5. Consistency across CABs

CAB sector managers confirm that the audit methodology is set out in the Scheme and in ISO 17021. However, each CAB maintains its own business practices and audit staff. All the CABs noted significant developments in their processes over the initial three years of the regulatory Scheme.

All the CABs expressed the desire for continued development of guidance documents to provide increased assurance on questions of good practice and conformance.

All four CABs were in the process of seeking JAS-ANZ accreditation at the time of this research and have received feedback on their processes regarding improvements. The accreditation process further supports consistency across CABs.

Areas of inconsistency

Fifty-eight percent of AAO survey respondents indicated that technical experts involved in their audits helped resolve conformance issues – which is considered consultation and is

prohibited in the standard auditing model. This was recognized by the CAB managers as a focus for ongoing training and development for personnel.

Each of the CABs maintains its own business model and operational processes. While these are different and unique to the CAB, they each strive to adhere to the Scheme as it is set out. The pre-Scheme ONZ audits clearly reflect a different focus and level than the current audit reports. The difference between the advisory/consultative system and the current regulatory system is very apparent in the data. As these are now legacy issues their impact on the consistency of auditing and performance will diminish with time.

6. Trends including a comparative analysis of AAOs previously certified with ONZ OutdoorsMark or similar around non-conformance within and across AAOs

The non-conformance data shows clear trends in where AAOs have lacked compliance. Major non-conformances were concentrated in operational risk management areas of Hazard Management, Standard Operating Procedures and Incident Management. Leadership and Management had the greatest overall number of conformance issues.

Audit reports generated under the pre-Scheme ONZ audits are clearly different in form and focus than those generated after the Scheme was in place. Direct comparison is difficult. From 2013 all of the ONZ certified AAOs were assessed in turn according to the new Scheme and Standard.

7. Performance and benefits of cross-activity and multi-site audits

The normal ISO sampling strategy is not directly applicable. CABs have adopted methods that get them across all the sites in time to meet Scheme requirements, however this approach is in need of consideration. The Scheme would benefit from additional guidance on this issue. Time and cost factors are raised by the AAOs in regard to this aspect, however it may be unavoidable and a cost of doing business. This is particularly true with surveillance issues.

8. Safety management benefits of audit process

It is apparent that the Safety Management Systems in the adventure activity space have been strengthened considerably against the standard.

A total of 3484 non-conformances with the Safety Audit Standard were identified over three years, of which 21% were major non-conformities. These conformance issues have been resolved to the satisfaction of the audit bodies, indicating that the Scheme has led to changes in safety management for a number of operators.

A small majority of AAOs acknowledge moderate or high value gained from the requirements of the Standard. While some operators have chosen to reduce their activity scope or close their business rather than achieve registration, the majority have taken up the challenge and succeeded.

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Scope of the Study

The purpose of this study was to examine the performance of the New Zealand Adventure Activity Certification Scheme (the Scheme)¹ in terms of ensuring operators' conformance with the Safety Audit Standard (the Standard)² and to examine selected areas of interest regarding consistency, time required, and costs associated with the process.

Specific outcomes sought were to understand the extent to which the current arrangements provide:

- Consistent audit activity across the adventure activity operators (AAOs) with respect to levels of non-conformance
- Time taken for audits (duration)
- Relative cost of audits
 - Comparison among the level of fee charged by auditors carrying audits of a similar nature (i.e. comparing scale, scope and type of activity across CABs)
- Scope of audits
- Consistency
 - Audit methodology across Certified Audit Bodies (CAB)
 - Categorising of audit findings (e.g. the benchmark for pass/fail)
 - Areas of inconsistency
- Trends including a comparative analysis of AAOs previously certified with Outdoors Mark or similar) around non-conformance within and across AAOs
- Performance and benefits of cross-activity and multi-site audits
- Safety management benefits of audit process

Scope exclusions

The study does not evaluate the audit bodies or their auditors. During the period researched, audit bodies were recognised on the basis of an independent evaluation. Each audit body is now required to gain accreditation from JAS-ANZ³, a body relied upon by the New Zealand Government to provide validation services for audit bodies across a wide range of industry sectors which require audit services. JAS-ANZ accredits audit bodies in the Scheme according to ISO/IEC 17021:2011(E)⁴ which is outside the scope of this research.

Methodology

This study utilized a mixed methodology approach involving document review, semi-scripted interviews and an online survey in order to collect data and conduct analysis relevant to the issues outlined in the scope. The following provides a description of each methodology.

¹ New Zealand Adventure Activities Certification Scheme: Requirements for Bodies Certifying Adventure Activity Operators' Safety Management Systems. Version 2, 1 November 2015. JAS-ANZ/WorkSafe New Zealand.

² Safety Audit Standard for Adventure Activities: Requirements for a Safety Audit of Operators. Ministry of Business, Innovation and Employment. March, 2013. ISBN 9778-0-478-40187-5 (online).

³ Joint Accreditation System of Australia and New Zealand. www.jas-anz.org

⁴ ISO/IEC 17021:2011(E). Conformity Assessment – Requirements for Bodies Providing Audit and Certification of Management Systems. 2nd Edition, 2011. www.iso.org

Sector Manager Interviews

Semi-structured interviews were conducted with the sector managers of the certified audit bodies. Sector managers were identified as the frontline manager of the CAB's activity relative to the Scheme. The semi-scripted format allowed for a focus on main points, but also to range into topics of interest relative to the study. The interviews lasted between two and three hours and took place in a private space either in the CAB offices (2) or in Queenstown (2). While each CAB is accredited by JAS ANZ as a recognized audit body this procures within each CAB and no comparison with other CAB occurs. The purpose of these interviews was to establish and examine the similarity of process, pricing, and practice across all the CABs. By agreement, no CAB will be identified or singled out in this research. The interviews lasted between two and three hours and data was transcribed from hand-written notes. The interview script is contained in the Appendices.

Document Review

Conformance with the Standard by AAOs was examined via document review. Each CAB was approached and asked to provide copies of all documents relating to their AAO clients. Types of audit documents provided included: operator profiles, audit reports, conditions and surveillance reports, certification documents, and technical expert reports. In cases where the CAB could not directly provide documents for and AAO for contractual reasons WorkSafe NZ was able to request the documents and provide the researcher with access to them. The audit documents were prepared electronically (i.e. formatting removed) and imported into NVIVO⁵ for qualitative coding and analysis. The primary review of the documents consisted of coding for conformance (Major, Minor, Observation, etc.) and assignment to the relevant section of the Standard.

Online Survey

The AAO experience of the Scheme in action was assessed using online survey methodology⁶. Data sought included costs of compliance (including safety management system development, audit and incidental costs), perception of quality, and performance enhancements as a result of the audit process. The survey utilized open and closed question formats to seek specific data and encourage AAO comment and feedback. Contact information for the AAO sample was provided by WorkSafe NZ. Survey items were drafted by the researcher. The survey was reviewed by WorkSafe and selected AAOs, however the researcher held editorial control of survey development and implementation. The survey items are included in the Appendices.

Data Collection

This research utilized audit reports generated by certifying bodies upon observation of adventure activities under the NZAACS, semi-scripted interviews with CAB sector managers, and a survey of AAOs. The primary data includes audit reports from registered adventure AAOs ranging across approximately 46 adventure activities. Data collection for

⁵ <http://www.qsrinternational.com/nvivo-product/nvivo-mac>

⁶ www.surveymonkey.com

the primary occurred electronically and in-depth interviews with sector managers were held at the CAB offices or in a private space in Queenstown.

Sample

Data for this study was sought for the 330 registered adventure activity operators (AAOs) as of 11 May 2016.

Document Review

Audit reports from all audits conducted for the 330 registered AAOs since the inception of the Scheme were sought from WorkSafe NZ and the CABs. Documents were received for 300 (91 percent) of the registered AAOs and these included operator profiles, audit reports, conditions and surveillance reports, certification documents, and technical expert reports.

Online Survey

The survey was made available to registered AAOs using the contact information (email) provided on the Register⁷. Bounced or invalid email address were corrected where possible and reminders were sent out weekly. The survey was available for completion from 7 July 2016 to 9 August 2016.

Status of Person Completing the Survey

Of the persons completing the survey, 95 percent hold a title reflective of a position of authority and responsibility for the safety management systems of the operation. Most respondents were Directors (55.9%) with Operations Manager, Chief Executive and Owner/Operator combining for another 31.8 percent. Only 4.7 percent of respondents were administrators or frontline staff (See Table 1).

	Percent	Count
Director	55.9%	96
Operations Manager	11.2%	20
Chief Executive	10.6%	18
Owner/Operator	10.0%	17
General Manager	4.1%	7
Administrator	3.5%	6
Safety Manager	2.4%	4
Frontline Staff	1.2%	2
		N=170

Sixty-two districts, plus 11 active in all of New Zealand, are represented by survey respondents (Table 2). The two most represented areas are Auckland City (16.50%) and Queenstown-Lakes District (14.10%). The responses represent a wide range of New Zealand.

⁷ <http://register.worksafe.govt.nz/>

Table 2: Districts in which respondents offered registered adventure activities

	Percent	Count		Percent	Count
Auckland City	16.50%	28	Whanganui District	3.50%	6
Queenstown-Lakes District	14.10%	24	Hauraki District	2.90%	5
Tasman District	10.60%	18	Manukau City	2.90%	5
Christchurch City	10.00%	17	Masterton District	2.90%	5
Central Otago District	9.40%	16	Tauranga City	2.90%	5
Marlborough District	8.80%	15	Whakatane District	2.90%	5
Far North District	8.20%	14	Franklin District	2.40%	4
Whangarei District	8.20%	14	Gore District	2.40%	4
Southland District	7.60%	13	Grey District	2.40%	4
Hurunui District	7.10%	12	Hamilton City	2.40%	4
Rotorua District	7.10%	12	New Plymouth District	2.40%	4
Taupo District	7.10%	12	Rangitikei District	2.40%	4
Waikato District	7.10%	12	South Taranaki District	2.40%	4
Waimakariri District	7.10%	12	Waitakere City	2.40%	4
Wellington City	7.10%	12	Waitomo District	2.40%	4
All of New Zealand	6.50%	11	Wanganui District	2.40%	4
Mackenzie District	6.50%	11	Fjordland	1.80%	3
Offshore and Minor Islands	5.90%	10	Gisbourne District	1.80%	3
North Shore City	5.90%	10	Hastings District	1.80%	3
Westland District	5.90%	10	Lower Hutt City	1.80%	3
Kapiti Coast District	5.30%	9	Napier City	1.80%	3
Rodney District	5.30%	9	Palmerston North City	1.80%	3
Ruapehu District	4.70%	8	Porirua City	1.80%	3
Ashburton District	4.10%	7	South Wairarapa District	1.80%	3
Buller District	4.10%	7	Upper Hutt City	1.80%	3
Dunedin City	4.10%	7	Western Bay of Plenty District	1.80%	3
Thames-Coromandel District	4.10%	7	Horowhenua District	1.20%	2
Waitaki District	4.10%	7	Invercargill City	1.20%	2
Kaikoura District	3.50%	6	Otorohanga District	1.20%	2
Papakura District	3.50%	6	Waipa District	1.20%	2
Timaru District	3.50%	6	Australia	0.60%	1
Whanganui District	3.50%	6	Matamata-Piako District	0.60%	1
					N=170

A total of 47 activities⁸ were represented in the survey with the most frequent being challenge courses, highwires and ziplines higher than three metres (20.6%), recreational SCUBA diving (19.4%), and Abseiling (18.8%) each representing around 20 percent of the 438 separate activity offerings in the survey.

Table 3: Respondent's Registered Adventure Activities (N=438)

	Percent	Count		Percent	Count
Challenge Course, Highwire, Zipline (> 3m)	20.6%	35	Backcountry Snowboarding	3.5%	6
Diving - Recreational SCUBA	19.4%	33	Climbing - Ice	3.5%	6
Abseiling	18.8%	32	Diving - Free	3.5%	6
Kayak - Open water	13.5%	23	Trail Biking	3.5%	6
Climbing - Rock	12.9%	22	Avalanche Education	2.9%	5
Diving - Snorkelling	11.8%	20	Canoeing - White water	2.9%	5
Sea Kayaking	11.8%	20	Canyoning	2.9%	5
Climbing - Structure	9.4%	16	Glacier Travel	2.9%	5
Guided Walk	9.4%	16	Canoeing - Open water	2.4%	4
Kayaking - White water	8.8%	15	Sailing	2.4%	4
Diving - Technical SCUBA	8.2%	14	Coasteering	1.8%	3
Quad Biking	8.2%	14	Via Ferrata	1.8%	3
Caving	7.6%	13	Cliff Jumping	1.2%	2
Kite Surfing	6.5%	11	High Angle Rescue	1.2%	2
Challenge Course, Highwire, Zipline (2-3m)	5.9%	10	Kite Buggy/Landboard	1.2%	2
Off-Road Driving	5.9%	10	River Rescue Courses	1.2%	2
Alpine Hiking	5.3%	9	Swimming - Open or Swift Water	1.2%	2
Mountain Biking	4.7%	8	Bungy	0.6%	1
Mountaineering	4.7%	8	Fun Park	0.6%	1
Backcountry Skiing	4.1%	7	Inflatable Ball Rolling	0.6%	1
Bush Travel	4.1%	7	Snow Kiting	0.6%	1
Snow Activities (snow shelter, snow shoe, etc.)	4.1%	7	Viaduct Traverse	0.6%	1
Stand Up Paddleboarding (Open or swift water)	4.1%	7	Waka Ama	0.6%	1
Swift Water - Inflatable or Board	4.1%	7			

⁸ The activities listed in the Register were regrouped on the basis of the activity itself for the purpose of this survey. For example, heli-skiing is listed as a registered activity when in fact the helicopter operation is considered an ancillary service in support of the backcountry skiing operation. Such helicopter services are covered by the Civil Aviation Authority.

Table 4 illustrates the ancillary services relied upon by the AAO respondents to the survey. Nearly 51% use land transport services and 25% use water transport services. Catering was reported as being used by 28% of the respondents. Six AAOs indicated that they rely upon other AAOs to provide a portion of their services.

Table 4: Respondent's Ancillary Services		
	Percent	Count
Land Transport	50.6%	86
Catering ⁹	28.2%	48
Water Transport	25.3%	43
Air Transport	10.0%	17
Accommodation	5.9%	10
Guided Walks	1.2%	2
Swimming Pool	0.6%	1
Guided Quad Bike Rides	0.6%	1
White Water Rafting	0.6%	1
Bike Hire	0.6%	1
		N=170

Non-Response

The AAO Survey

Five percent (11) of the 221 respondents indicated that they did not want to complete the survey and 141 of the remainder completed the entire survey. This yields a complete survey response rate of 43 percent of all registered AAOs, which is an acceptable response rate for this study. Given the population of registered AAOs (N=330) the survey has a margin of error of +/-6 with a 95% confidence level. Reasons for non-participation included: lack of time, disaffection with the Scheme, having already given enough feedback, and no longer offering adventure activities.

Audit Reports and Interviews

Audit reports were received for 300 of the 330 registered AAOs (91percent). No information is available regarding the missing audit reports, however analysis of the AAOs in question revealed no clear pattern in terms of size, activity or other variables which may have skewed the study's findings. All of the CABs provided documents and all of the CAB Sector Managers participated in the interview process.

Data Analysis

The following section describes the data analysis procedures followed in the development of this research.

⁹ While catering is not covered in the regulations, it does present health and safety issues and was included in the survey in order to understand its use.

Document Review

Upon receipt of audit documents, they were sorted according to their purpose. Categories included operator profiles, audit reports, conditions and surveillance reports, notices of certification and acknowledgements of discontinued activity. The operator profiles and the adventure activity register were used to create a case in NVIVO for each AAO. Each document was prepared¹⁰ and imported into the NVIVO database and assigned to its AAO case. Audit Reports and Conditions/Surveillance Reports were then coded with regard to the conformance data they contain. Each non-conformance, observation or opportunity for improvement (OFI) was coded at the appropriate level (Major, Minor, Observation, and OFI) and linked with the relevant section and line in the Standard. Additional codes were applied as they arose (i.e. Observation stated as directive or as consultation). Once coded the data was available for analysis in the form of matrix coding and tabulation according to the items and item attributes included in the database.

Sector Manager Interviews

Interview notes were transcribed into text format immediately following the interview. This text was imported into NVIVO for analysis. The interview data was coded according to emergent themes and concepts as they became apparent in the text.

The AAO Survey

Survey data was exported from Survey Monkey and prepared for analysis (i.e. removal of incomplete responses) and tabulated in Microsoft Excel.

Detailed Findings

This section considers the findings for the three data sets (Audit Reports, CAB Interviews, and AAO Survey).

Standard Conformance

Table 5 sets out the conformance findings in terms of non-conformance (NC). Non-conformances are categorized as major or minor. Observations or Opportunities for Improvement can also be noted as items to track but these are not in themselves non-conformances.

¹⁰ This process varied for each CAB as each prepares its reports in differing ways including the use of text, tables, forms and so on. The documents also varied within the CABs as they had developed their documentation process overtime. A given document was likely to have required 12 separate manipulations to render the data useful as text for qualitative analysis.

Categories of Non-conformity

Major Non Conformities are defined by the Scheme (p. 36) as:

- 1. A nonconforming matter directly affecting the:
 - a. standard operating procedures for managing the significant hazards and operating conditions, including the selection and briefing of participants, or*
 - b. competence, resourcing, and practices of the staff undertaking an adventure activity.**
- 2. A nonconforming matter involving significant deficiencies in the:
 - a. a) policy and methods for monitoring and responding to drug and alcohol hazards, or*
 - b. emergency response plans.**
- 3. A series of minor nonconformities.*
- 4. Any other nonconformity that, in the view of the audit team, creates an unacceptable level of risk in the operator's delivery of adventure activities.*

Major NCs “must be resolved or downgraded to a minor nonconformity before a safety certificate can be issued. The certification body will provide the operator with an opportunity to implement corrective and preventive actions of major nonconformities to the certification body's satisfaction; except where a decision has been made to automatically fail the operator. The time allowed will be consistent with the degree of risk arising from the nonconformity (notwithstanding the six-month limitation for the operator to address identified nonconformity(s), as per paragraph 76, section 4 [of the Scheme].”

Minor NCs are defined in the Scheme as: “A nonconforming matter that is not a major nonconformity, including leadership, policy, and process matters that do not immediately affect the management of the significant hazards and operating conditions involved in an adventure activity.” Consequences for minor NCs are set out as requiring that: ‘the certification body will provide the operator with an opportunity to resolve minor nonconformities, except where a decision has been made to automatically fail the operator. The time allowed for resolution will be proportionate to the degree of risk arising from the nonconformity and the extent of corrective actions required. Note: A certification body may issue a certificate despite the existence of minor nonconformities provided the certification body has accepted the operator's proposed corrective action plan and timetable, and has agreed the method by which completion of the actions will be verified.’”

A total of 736 major NCs (21%) were identified in the data and 2748 minor NCs were identified for a total of 3484 non-conformances in the data set. Section 3: Leadership and Management had the highest percentage of NCs (31%) followed by Section 5: Standard Operating Procedures (23%) and Section 4: Hazard Management (13%).

Table 5: Safety Audit Standard Conformance

	Major NC	Minor NC	Total NC	% Total NC
Section 2: Safety Management System Requirements	16	82	98	3
Section 3: Leadership and Management	70	1003	1073	31
Section 4: Hazard Management	224	224	448	13
Section 5: Standard Operating Procedures	286	517	803	23
Section 6: Emergency Preparedness and Response Plans	71	216	287	8
Section 7: Incident Management	48	224	272	8
Section 8: Document Control	10	136	146	4
Section 9: Continual Improvement	11	346	357	10
Totals	736	2748	3484	100

Section 5: Standard Operating Procedures and Section 4: Hazard Management had the highest numbers of major NCs with 286 and 224 respectively. This finding is striking as these sections deal with operational risk management (rather than planning and policy or document control and SMS improvement) which highlights a substantial difference with AAO statements that operational risk management was well developed – particularly in light of the fact that the next highest number of major NCs (Section 6) was far lower at 71 NCs.

However, a straight percentage of NCs by section may be somewhat misleading as each section has a different number of items contained within it. Table 6 provides a ranking of the standardized impact of each section – each section's NCs have been divided by the number of lines – resulting in a per capita figure for each section. Ranking NCs on their value as a line item proves problematic and as such the NCs are here ranked solely on their occurrence. By taking into account the number of items against which a NC could be assigned, Sections 6 and 7 have more NCs per section item than Section 3.

Table 6: Ranked NC Impact of Standard by Section (Per Capita Basis)

	Items Per Section	Total NC	Equalized Impact
Section 7: Incident Management	9	272	30.22
Section 6: Emergency Preparedness and Response Plans	10	287	28.70
Section 3: Leadership and Management	41	1073	26.17
Section 5: Standard Operating Procedures (SOPs)	32	803	25.09
Section 4: Hazard Management	24	448	18.67
Section 9: Continual Improvement	21	357	17.00
Section 8: Document Control	9	146	16.22
Section 2: Safety Management System Requirements	7	98	14.00

Taking each section in turn, the following provides summary analysis of the NCs found.¹¹ When NCs are noted at the section level (i.e. Section 2: Safety Management System (SMS) Requirements) rather than a line item it indicates that either the NC applies to the entire section or that it was unclear which aspect of the section the NC applied to in the audit documents.

Section Two: Safety Management System Requirements

Section Two sets out the requirements for safety management systems. Table A1 illustrates the NC data as well as the number of Observations (OBS) and Opportunities for Improvement (OFI) for each item. Forty-five percent (44.90) of the NCs in this section arise from item 2.2¹² and of the 44 NCs three were rated as major. Next highest in NCs were item 2.3¹³ and the Section as a whole with 15 NCs (15.31%) each. Policy development, particularly around approval and written commitment and documentation of the components and their linkage resulted in the most NCs for Section 2.

Section 3: Leadership and Management

Section 3 has the largest number of items in the Standard (41) and had the highest overall number of NCs (1073) with 70 major NCs. These were well distributed across the range (Table A2). Item 3.3.3¹⁴ held the highest percentage of NCs (7.74%) followed by item 3.3.1¹⁵ with 6.06% and 3.4.4.C¹⁶ with 5.87% of the NCs in Section 3. Staff involvement in the development of the SMS, setting goals and objectives and monitoring staff performance returned the highest numbers of NCs in this section, however item 3.6.1¹⁷ had the most major NCs (11) indicating that staff induction to the SMS was a conformance issue for some. Similarly, items 3.5.1¹⁸, 3.5.2¹⁹ and 3.5.4²⁰ with 21 major NCs in total indicates that communication and disclosure of safety information to staff, participants and others were substantial issues as well.

¹¹ Note: Section One of the Standard provides definitions only.

¹² 2.2: The SMS must include an overarching safety management policy. The policy must express the operator's commitment to compliance with health and safety legislation, prevention of serious harm, and continual improvement.

¹³ 2.3: The operator should have a document or statement summarizing the components of their SMS and how they relate to each other.

¹⁴ 3.3.3 The operator must involve staff in establishing safety objectives and implementing plans to meet them, and must monitor and record the results.

¹⁵ 3.3.1 The operator must set goals and objectives that address safety and effect improvement. Objectives should be specific, measurable, achievable, relevant and time-bound.

¹⁶ 3.4.4.C monitoring the performance of staff in relation to assigned responsibilities and delegations

¹⁷ 3.6.1 Staff must be inducted into the operator's SMS before they take responsibility for others within an activity.

¹⁸ 3.5.1 The operator must establish, implement and maintain procedures for communicating relevant safety information to staff, participants, potential participants and other parties.

¹⁹ 3.5.2 The operator must have procedures for risk disclosure between the operator and participant, and subsequent acknowledgement.

²⁰ 3.5.4 Safety must be addressed regularly at internal meetings. Decisions and any action points arising from these meetings must be communicated to staff and implemented.

Table 7: Section 3 Leadership and Management Conformance Overview

	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
3.1 Top leadership commitment	4	133	137	12.78	122	9
3.2 Legislation, standards, codes of practice and guidelines	8	155	163	15.19	86	18
3.3 Safety goals and objectives	7	200	207	19.3	73	19
3.4 Roles, responsibilities and authority	13	302	315	29.36	27	2
3.5 Communication	22	154	176	16.4	34	29
3.6 Staff induction and training	16	59	75	7	36	9
Totals	70	1003	1073	100	378	86

Table 7 provides an overview of the Leadership and Management subsections. Subsection 3.4 had the highest combined percentage of non-conformance (29.36%) while subsection 3.5 Communication had the highest number of major NCs (22).

Section 4: Hazard Management

Section 4 returned 223 major NCs and 224 minor NCs in hazard management. The items with the most major NCs in Section 4 were found with item 4.2.2 and its sub items²¹ with 68 major NCs and 24.12 percent of the NCs in the section (Table A3). Item 4.3.2²² ranked next with 28 major NCs and 13.39% of the total NCs in the Hazard Management section. Item 4.1.1 and its sub items²³ also ranked highly with 45 total major NCs for 16.74% of the NCs in this section. Taken together (Table 8) the section on identification of hazards and assessment of their significance (4.1.1) and subsection 4.2 regarding taking all practicable steps to eliminate, isolate or minimize significant hazards returned the two highest levels of major NC in this dataset. Another 37.95% of the NCs arose from the subsection 4.3 drug and alcohol related items. These items (4.3.1 to 4.3.5) yielded an additional 69 major NCs.

Table 8: Section 4: Hazard Management Compliance Overview

	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
4.1 Hazard Identification and Assessment	68	77	145	32.36	52	14
4.2 Significant Hazards	87	45	132	29.47	19	3
4.3 Drug and Alcohol Use	69	101	170	37.95	31	10
Totals	224	223	447	99.78	102	27

²¹ 4.2.2 In managing the risks created by a significant hazard, the operator must take all practicable steps to:
4.2.2.a eliminate the hazard, or if that is not practicable, 4.2.2.b isolate the hazard, or if that is not practicable, 4.2.2.c minimise the likelihood that the hazard will be a cause or source of harm.

²² 4.3.2 The operator must have a policy for managing the risk of drug and alcohol impairment among staff. The policy must be based on the assessed risk level.

²³ 4.1.1 The operator must implement a systematic process to:
4.1.1.a Identify hazards and 4.1.1.b assess them for significance.

Section 5: Standard Operating Procedures

Table A4 illustrates the NC findings for Section 5: Standard Operating Procedures which had a total 286 major NCs and 803 minor NCs. Item 5.3.1²⁴ returned the highest number of major NCs (29) and item 5.2.1²⁵ had the highest percentage of NCs (11.71) in the section.

Subsections 5.2 Staff Competence and 5.5 Clothing and Equipment had the highest total major NCs (67, 63) and overall percentage of NCs (27.65, 24.79) for the section (Table 9).

These were followed by 5.4 Supervision Structures (51, 14.44%) and 5.3 Dynamic Management of Hazards (44, 13.45%).

Table 9: Section 5: Standard Operating Procedures Compliance Overview

	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
5.1 Activity SOPs	33	45	78	9.71	18	13
5.2 Staff competence	67	155	222	27.65	19	17
5.3 Dynamic management of hazards	44	64	108	13.45	6	6
5.4 Supervision structures	51	65	116	14.44	7	5
5.5 Clothing and equipment	63	136	199	24.79	30	16
5.6 Field communications	15	23	38	4.73	32	4
5.7 Ancillary services	13	29	42	5.23	26	7
Totals	286	517	803	100	138	68

Section 6 Emergency Preparedness and Response Plans

Review and testing of emergency response plans following incidents (item 6.4²⁶) had the highest percentage of NCs in this section (24.04). This was followed by item 6.2 inclusive of its subitems²⁷ with 18.47 and item 6.6²⁸ with 16.72 percent of NCs in this section. Items with the most major NCs in Section 6 include: 6.3²⁹ which had 17, 6.6 which had 15 and 6.1³⁰ which had 11 (See Table A5).

²⁴ 5.3.1 In addition to outlining control measures for significant hazards, SOPs must require staff to continually identify and manage hazards during each activity.

²⁵ 5.2.1 SOPs must describe the required staff competence for each activity. A formal and systematic task assessment must be conducted for each activity to determine the required staff competence.

²⁶ 6.4 The emergency preparedness and response plans must be tested and reviewed periodically, reviewed after an incident or emergency, and revised as required.

²⁷ 6.2 The plans must include procedures for: a) stabilising the situation and accounting for staff and participants; and b) assigning responsibilities and authority for implementing emergency response plans, including who must notify emergency services and when.

²⁸ 6.6 The operator must ensure that staff and participants have ready access to someone with an appropriate and current first aid qualification.

²⁹ 6.3 The emergency preparedness and response plans must be known by staff and made available to participants and other relevant parties.

³⁰ 6.1 The operator must establish and maintain emergency preparedness and response plans for foreseeable emergencies.

Section 7: Incident Management

Item 7.2.1³¹ returned both the highest number of major NCs (32) and the largest percentage of NCs (46.32) in this section (See Table A6). Table 10 outlines the NC data for the subsections: Incident Response and Incident Review. A stark gap was identified by the audit process in AAO systems in terms of post-incident review.

Table 10: Section 7: Incident Management Compliance Overview

	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
7.1 Incident response	6	91	97	35.66	13	10
7.2 Incident Review	42	133	175	64.33	21	10
Totals	48	224	272	99.99	34	20

Section 8: Document Control

Document management played the largest role in Section 8 non-compliance findings.

Adventure activity operators must ensure that the documented information required for the SMS is removed from circulation if out of date (Item 8.1.F³²), for which 24.66% of NCs, including 6 major NCs, in this section were associated (See Table A7). Another 21.92% of the NCs in this section were associated with item 8.1.A³³ and 12.33% with item 8.1.C³⁴.

Section 9: Continual Improvement

Section 9 addresses continual improvement of the SMS in terms of process, internal review of the SMS, and internal review of the adventure activities. Items in this section with the highest levels of NC were 9.3.1³⁵ with 22.97%, 9.3.2³⁶ with 14.01%, and 9.2.2³⁷ with 11.76% (See Table A8). The item with the highest levels of major NCs with 5 of the 11 found in this section was 9.1.1³⁸.

Review of the compliance data for the subsections of Section 9 (Table 11) indicate that internal review of the adventure activities themselves with 5 major, 195 minor NCs and 56.05% of the NCs in this section. Internal review of the SMS had the second highest percentage on NCs (25.48) with 90 minor NCs and 1 major NC.

³¹ 7.2.1 The operator must establish a process for investigating and reviewing incidents, understanding the underlying causes, identifying improvements to the SMS, and analysing trends.

³² 8.1.F removed from circulation if it is obsolete, or clearly marked that it is not to be used.

³³ 8.1.A readable, identifiable and traceable to the activity

³⁴ 8.1.C signed off as adequate by a competent and responsible person

³⁵ 9.3.1 The operator must conduct scheduled internal reviews of their adventure activities to ensure compliance with this standard. In addition, the operator must review their adventure activities when prompted by:

³⁶ 9.3.2 The operator should consider involving technical experts to assist in the review process. The operator must ensure that:

³⁷ 9.2.2 The review should take into account any audit findings, reports from technical experts, and analyses and recommendations from specific reviews, including reviews of incidents.

³⁸ 9.1.1 The operator must develop, implement and maintain a process to ensure continual improvement of the SMS and safety outcomes.

Table 11: Section 9: Continual Improvement Compliance Overview

	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
9.1 Process	5	59	64	17.92	32	4
9.2 Internal Review of the SMS	1	90	91	25.48	27	22
9.3 Internal Reviews of Adventure Activities	5	195	200	56.02	54	14
Totals	11	344	355	99.42 ³⁹	113	40

Item Non Conformance

Table 14 indicates which items in the Standard (regardless of Section) were ranked in the 90th percentile of non-conformances (e.g. these had more NCs assigned to them than 90 percent of all the items in the Standard). Item 7.2.1 had by far the largest total number of NCs (126) followed by Item 5.2.1 (94), Item 4.2.2 (89) and so on.

Table 12: Items Ranked in the 90th Percentile of Overall Non-Conformance

	Major NC	Minor NC	Total NC	% total NC
7.2.1 The operator must establish a process for investigating and reviewing incidents, understanding the underlying causes, identifying improvements to the SMS, and analysing trends.	32	94	126	3.62
5.2.1 SOPs must describe the required staff competence for each activity. A formal and systematic task assessment must be conducted for each activity to determine the required staff competence.	22	72	94	2.70
4.2.2 In managing the risks created by a significant hazard, the operator must take all practicable steps to	49	40	89	2.55
3.3.3 The operator must involve staff in establishing safety objectives and implementing plans to meet them, and must monitor and record the results.	4	79	83	2.38
9.3.1 The operator must conduct scheduled internal reviews of their adventure activities to ensure compliance with this standard. In addition, the operator must review their adventure activities when prompted by	1	81	82	2.35
5.2.3 The operator must ensure staff have their competence verified through appropriate processes of assessment and revalidation.	24	45	69	1.98
6.4 The emergency preparedness and response plans	9	60	69	1.98

³⁹ The percentage does not add to 100 as two minor NCs in this section were associated with the section itself rather than any item or subsection.

must be tested and reviewed periodically, reviewed after an incident or emergency, and revised as required.				
5.3.1 In addition to outlining control measures for significant hazards, SOPs must require staff to continually identify and manage hazards during each activity.	29	37	66	1.89
3.3.1 The operator must set goals and objectives that address safety and effect improvement. Objectives should be specific, measurable, achievable, relevant and time-bound.	2	63	65	1.87
3.4.4.C monitoring the performance of staff in relation to assigned responsibilities and delegations	2	61	63	1.81
5.5.2 The operator must ensure there is sufficient clothing and equipment for the intended activity, and that it is suitably stored and maintained.	22	41	63	1.81
4.3.2 The operator must have a policy for managing the risk of drug and alcohol impairment among staff. The policy must be based on the assessed risk level.	28	32	60	1.72
3.2.1 The operator must identify the legislation (including local bylaws), standards, activity safety guidelines, codes of practice, and similar information that is relevant to the safe management of their adventure activities.	0	59	59	1.69
5.5.4 The operator must ensure that clothing and equipment used is fit for purpose whether provided by the operator, the participant or a third party.	18	41	59	1.69
4.1.1 The operator must implement a systematic process to	33	25	58	1.66
3.4.2 The operator must ensure that specific authorities and responsibilities for safety requirements are assigned to competent staff. As appropriate, such responsibilities should be recorded in performance agreements, contracts or other documentation.	1	56	57	1.64
3.2.3 The operator must monitor this information to ensure the SMS remains up-to-date and consistent with any changes as appropriate and that their operations continue to comply with such requirements.	0	56	56	1.61

Major Non-conformance

Expanding on NC findings in operational risk management described in Table 5, items with the highest levels of major non-conformance are shown in Table 13 – down to the 90th percentile of performance against the standard. Items in Section 4: Hazard Management,

Section 5: Standard Operating Procedures, and Section 7: Incident Management had major nonconformities in the 95th percentile with the majority of these in core safety management areas of hazard management and standard operating procedures.

Table 13: Items Ranked to the 90th Percentile for Major Non-Conformance

	Major NC	Minor NC	Total NC	Percentile
4.2.2 In managing the risks created by a significant hazard, the operator must take all practicable steps to	49	40	89	95
4.1.1 The operator must implement a systematic process to	33	25	58	95
7.2.1 The operator must establish a process for investigating and reviewing incidents, understanding the underlying causes, identifying improvements to the SMS, and analysing trends.	32	94	126	95
5.3.1 In addition to outlining control measures for significant hazards, SOPs must require staff to continually identify and manage hazards during each activity.	29	37	66	95
4.3.2 The operator must have a policy for managing the risk of drug and alcohol impairment among staff. The policy must be based on the assessed risk level.	28	32	60	95
4.3.1 The operator must assess the level of risk to their operations caused by staff being impaired by drug and alcohol use. The risk assessment must take into account the nature of the activities provided by the operator, and the nature of their workforce	26	27	53	95
5.2.3 The operator must ensure staff have their competence verified through appropriate processes of assessment and revalidation.	24	45	69	95
5.2.1 SOPs must describe the required staff competence for each activity. A formal and systematic task assessment must be conducted for each activity to determine the required staff competence.	22	72	94	95
5.5.2 The operator must ensure there is sufficient clothing and equipment for the intended activity, and that it is suitably stored and maintained.	22	41	63	95
5.5.4 The operator must ensure that clothing and equipment used is fit for purpose whether provided by the operator, the participant or a third party.	18	41	59	90
4.1.2 The operator must ensure that a technical expert, either in-house or external, is involved in this process of identification and assessment.	17	36	53	90

6.3 The emergency preparedness and response plans must be known by staff and made available to participants and other relevant parties.	17	28	45	90
5.1.1 The operator must develop, implement and maintain SOPs for each activity.	16	24	40	90
6.6 The operator must ensure that staff and participants have ready access to someone with an appropriate and current first aid qualification.	15	33	48	90
5.4.1 The operator must ensure participants are adequately supervised. SOPs must specify	15	23	38	90
5.6.1 The operator must develop, implement and maintain procedures that enable staff to seek assistance during the activity.	14	21	35	90
5.2.2 The operator must ensure staff have the required competence for their assigned tasks or are supervised by someone with the required competence.	13	23	36	90
5.4.1.C how and when supervision ratios and positioning should change for differing circumstances.	13	18	31	90

Hazard management and standard operating procedures also ranked highly in major non-conformance down to the 90th percentile with Section 6: Emergency Preparedness and Response Plans appears twice at this performance level. Considering that these aspects of safety management systems are reasonably considered core business over others (i.e. document control and continual improvement) and should have been well in-place prior to the implementation of the regulatory system indicates that the Scheme has performed well in identifying and correcting gaps in key areas of safety management.

Survey Findings

The following outlines findings from the survey of registered AAOs. The Adventure Activity Operator survey revealed a range of perspectives on the Scheme in terms of cost, benefits or registration, value gained and quality and consistency of the audit and registration process.

Areas explored include: Costs and staff time, value gained from the safety audit standard, benefits versus costs, perceptions of audit quality and consistency, consultation, supporting resources, and the Adventure Safety Guidelines.

Costs and Staff Time

Respondents were asked to indicate the amounts spent on the audit and related costs as part of their registration process (See Table A9). On the audit itself, 31% spent up to \$3000, 40% spent between \$3001 and \$5000, 13% spent between \$5001 and \$7000, 4% spent between \$7001 and \$9000, and 11% spent \$9001 or more. For consultants, 25% indicated that they spent up to \$3000, 9% spent between \$3001 and \$5000, 3% spent more than \$5000, and 45% indicated that they spent nothing. Eighty percent of respondents indicated that they spent nothing on engineering reports, 16% spent up to \$3000, and 4% spent more than \$3001.

Thirty-seven percent indicated that they spent up to \$3000 on new equipment required for registration. Thirteen percent spent between \$3001 and \$6000, and 9% spent more than \$6001 on new equipment. Requirements to modify existing equipment cost up to \$3000 for 40%, between \$3001 and \$6000, and more than \$10,000 for 4%. Forty-nine percent spent nothing on modifications to existing equipment.

Respondents indicated that 62% spent up to \$3000 on staff time to gain registration with 11% spending between \$3001 and \$6000, and 11% spending more than \$6000. Fifteen percent indicated that they spent no money on staff time and the high percentage of owner/operators in this sample somewhat confounds this facet. Indications of cost associated with the respondent themselves preparing for registration indicate that 41% spent up to \$3000 on their time to gain registration with 38% spending between \$3001 and \$6000, and 15% spending more than \$6000. Seven percent indicated there was no cost associated with this facet.

In terms of staff time spent on registration of adventure activities (See Table A10), respondents were asked to respond to the same categories as for costs associated with registration. For the audit itself 36% indicated that staff spent a week or less, 21% spent more than a week, 19% spent several weeks, 6% spent about a month, and 15% spent several months. Only 3% indicated that no staff time was spent on the audit. For consultants, 38% indicated that no staff time was spent, 47% spent less than a week, and 15% spent more than a week to several months on the task.

For engineering reports, 77% indicated no staff time was required, 22% required a week or less of staff time and one percent spent more than a week. Staff time spent on required new equipment was 52% for a week or less, six percent for more than a week to several weeks, and 42% for no staff time spent. Staff time spent modifying existing equipment was 36% for a week or less, 13% for more than a week to about a month, and 51% for no staff time spent.

[Value Gained from the Safety Audit Standard](#)

Respondents were asked to reflect on the value gained from each section of the Standard for various aspects of operations: participant safety, staff safety, AAO confidence in the SMS, and supplier confidence in AAO safety. Value was rated on a scale with a range of high, moderate, low, or none.

[Participant Safety](#)

Table 14 describes the level of value AAOs felt was gained from the sections of the Standard in terms of participant safety. Those indicating high value ranged from 22-31% of respondents with Sections 2 and 5 ranking highest. A range of 26-42% was assigned to moderate value gained with Section 9 rating highest and Section 2 lowest. Low ratings were received for a range of 20-29% with the most associated with Section 3 and the least with Section 9. Ratings of no value gained ranged from 13-19% with Sections 6 and 7 being rated most as adding no value by AAOs.

Table 14: Level of Value Gained from the Safety Audit Standard: Participant Safety

Standard Section	High		Moderate		Low		None		N
	N	%	N	%	N	%	N	%	
2. Safety Management System Requirements	43	31	36	26	38	27	23	16	140
3. Leadership and Management	38	27	39	28	40	29	22	16	139
4. Hazard Management	39	28	41	30	37	27	21	15	138
5. Standard Operating Procedures	43	31	41	30	30	22	24	17	138
6. Emergency Preparedness and Response Plans	41	29	39	28	33	24	26	19	139
7. Incident Management	35	25	44	32	33	24	26	19	138
8. Document Control	31	22	50	36	33	24	25	18	139
9. Continual Improvement	35	25	58	42	28	20	18	13	139

Staff Safety

In terms of staff safety, the AAOs were spread across the range of value gained from the Standard (Table 15). Standard operating procedures added a high level of value (33%) for staff safety with the other sections ranging down to SMS Requirements and Document Control both receiving 24%. Document Control received the most ratings as moderate in value (36%) with SMS Requirements receiving the least at 27%. SMS Requirements received the most ratings at low value (33%) and Standard Operating Procedures the least at 22%. Of those AAOs who felt the Standard added no value to staff safety. Leadership and Management and Incident Management both received 17% of the ratings with Continual Improvement receiving the least at 12%.

Table 15: Level of Value Gained from the Safety Audit Standard: Staff Safety

Standard Section	High		Moderate		Low		None		N
	N	%	N	%	N	%	N	%	
2. Safety Management System Requirements	34	24	38	27	46	33	22	16	140
3. Leadership and Management	36	26	42	31	36	26	23	17	137
4. Hazard Management	36	27	42	31	35	26	22	16	135
5. Standard Operating Procedures	44	33	39	29	30	22	21	16	134
6. Emergency Preparedness and Response Plans	40	29	40	29	32	24	24	18	136
7. Incident Management	35	26	41	30	36	27	23	17	135
8. Document Control	32	24	49	36	35	26	20	15	136
9. Continual Improvement	35	26	53	39	31	23	16	12	135

Overall Confidence

A greater percentage of AAOs felt that the Standard added a high degree of value to their overall confidence with a range of 46% for SMS Requirements to 35% for Document Control (Table 16). In terms of Moderate levels of value, Continual Improvement was most frequent (37%) with SMS System Requirements least frequent (28%). At low levels of value Continual Improvement was again most frequent (17%) and Emergency Preparedness and Response Plans least frequent (12%). Incident Management had the most ratings as adding no value (15%) and SMS Requirements the least (11%).

Table 16: Level of Value gained from the Safety Audit Standard: Overall Confidence

Standard Section	High		Moderate		Low		None		N
	N	%	N	%	N	%	N	%	
2. Safety Management System Requirements	65	46	39	28	21	15	15	11	140
3. Leadership and Management	54	40	44	33	21	16	16	12	135
4. Hazard Management	49	37	47	35	18	14	19	14	133
5. Standard Operating Procedures	50	38	45	34	21	16	17	13	133
6. Emergency Preparedness and Response Plans	52	39	46	35	16	12	19	14	133
7. Incident Management	49	37	44	33	21	16	20	15	134
8. Document Control	46	35	48	36	21	16	18	14	133
9. Continual Improvement	47	36	49	37	23	17	13	10	132

Supplier Confidence

Adventure activity operators rated added value in supplier confidence as a result of the Standard slightly higher than increases in overall confidence (Table 17). At the high level of added value 50% rated SMS Requirements ranging down to 34% for Document Control. Moderate levels of added value saw Document Control rated most frequently (30%) and SMS Requirements least (22%). Low levels of added value saw Continual Improvement rated most frequently (12%) with SMS Requirements the least (8%). There is a rise in frequencies at the no value added level with Document Control most frequent (27%) and SMS Requirements the least (19%)

Table 17: Level of Value gained from the Safety Audit Standard: Supplier Confidence

Standard Section	High		Moderate		Low		None		N
	N	%	N	%	N	%	N	%	
2. Safety Management System Requirements	70	50	31	22	11	8	27	19	139
3. Leadership and Management	55	42	35	27	13	10	27	21	130
4. Hazard Management	57	43	31	23	12	9	32	24	132
5. Standard Operating Procedures	53	40	36	27	13	10	29	22	131
6. Emergency Preparedness and Response Plans	52	40	35	27	13	10	31	24	131
7. Incident Management	50	38	35	27	12	9	33	25	130
8. Document Control	43	34	39	30	11	9	35	27	128
9. Continual Improvement	50	38	36	28	16	12	28	22	130

Benefits of Registration

Respondents were asked a series of questions regarding benefits they may have realized from registration. These included benefits from other AAOs, inbound agents, customer confidence, staff confidence and in sector image. Table 18 details the findings from each of these questions. There is a clear pattern of disagreement about benefits of registration for the chosen categories.

Table 18: Benefits Realized from Registration

	Yes	No	N/A	N
Other Adventure Activity Operators	19.9%	74.5%	5.7%	141
Inbound Agents	25.5%	67.4%	7.1%	141
Customer Confidence	27.7%	69.5%	2.8%	141
Staff Confidence	29.8%	63.1%	6.3%	141
Sector Image	27.0%	70.2%	2.8%	141

Benefit Versus Cost

The AAOs were asked whether, on balance, the benefits of gained from compliance have outweighed the costs of compliance⁴⁰. While one third agreed that the benefits had outweighed the costs, 66.6% disagreed with 24.1% disagreeing very strongly (Table 19).

⁴⁰ Note: This question sets aside the fact that under the regulatory system established in 2013 noncompliance and therefore not being registered as such is tantamount to not being able to conduct business as an AAO.

Table 19: Level of agreement with the following statement: On balance, the benefits gained from compliance have outweighed the costs of compliance

	Response Percent	Response Count
Agree Very Strongly	2.8%	4
Agree Strongly	6.4%	9
Agree	24.1%	34
Disagree	25.5%	36
Disagree Strongly	17.0%	24
Disagree Very Strongly	24.1%	34
		N=141

Comments were sought from AAOs on this question and the 47 favourable comments were thematically coded in NVIVO in order to capture their intent as data of this sort resists standardized coding into the predetermined categories. Thematic coding proceeds by first reviewing respondent comments and then sorting them by content at which point they are combined in a descriptive narrative format with attention to convey the overall meaning of the comments without undue interpretation or quantification. The primary theme expressed by AAOs who said that the benefits outweighed the costs was that it created opportunities to improve their systems. Other comments focused on the confidence generated among governance boards, staff and suppliers as well as the confidence resulting with customers – particularly that of schools and others who rely on the AAOs for safe experiences. Costs were raised and some indicated that the balance only just favoured benefits in their case. One respondent balanced the benefit of greater safety awareness with the requirements of registration and stated:

“I do believe however that the tourism industry as a whole has or will benefit from the system by making employers more aware of their responsibilities towards their staff and customers safety training requirements. It is unfortunate however some smaller but professional providers have shut down or reduced their services due to the increased operating costs involved with the system.”

This theme was repeated, perhaps more pointedly, by another AAO:

“It comes down to the overall intention. New Zealand’s Adventure Industry needs a serious attitude adjustment and the implementation of the SMS System was if nothing else a stake in the sand for companies to start taking greater responsibility for their actions. As such I know for us as a business, we benefitted greatly from taking a look at ourselves. It’s like personal development/self-awareness training for a business.”

Other themes included increased collaboration, decreased competition from “fly-by-night operators” and the marketing opportunities that have come with being registered.

Comments (93) from those who felt that the costs of registration had outweighed the benefits several themes related to the compliance costs relative to their incomes as small businesses and perceived benefits of compliance. For example, one AAO wrote:

“It cost us thousands of dollars and months of my own time writing up the SMP for very little change in the safety levels and income for the business. We were already very safe and had zero incidents in 6 years’ operation before the standard. I do a hell of a lot more work now for the same outcome and the business has not become much busier than it was previous.”

And:

“We were running safe operations manuals before the need for audits. We have had to invest heavily in rewriting our manuals to conform with the adventure activity regulations over the last few years but this has not necessarily improved our safety on the water. Benefits of compliance do not outweigh the costs.”

Other cost-related comments focused on cost increases leading to those in need of services not being able to afford the AAO, less available funds for equipment negatively impacting operational safety and Little evidence that registration has increased business or improved safety.

Competition was another prominent theme – particularly around operations offering similar activities without being subject to registration due to categorical exemptions or AAOs operating illegally. As well as being placed at a competitive disadvantage due to other regulatory requirements from activity organizations.

Some wrote about experiences with auditors that weren’t professional or effective from their perspective. One theme which stood out in this vein was the process in which the audits were carried out in terms of forms and the degree of individual judgement available to auditors who may not have understood the operation.

[Adventure Activity Operator Perceptions of Audit Quality](#)

The AAOs were asked to rate quality related aspects of the audit process on a 6-point scale including the options: agree very strongly (6), agree strongly (5), agree (4), disagree (3), strongly disagree (2), very strongly disagree (1) and not applicable (0). An average rating across all respondents included in Table A11. The average rating is the mean of the sum of all responses for an item. With the above scale, a higher average rating indicates a greater level of agreement with the statement. Average ratings in the mid-range indicates a greater spread of responses to an item.

When asked whether resolving conformance related issues contributed to the safety of the operation 45% were in disagreement and 45% were in agreement. Scaled scores returned an average rating of 4.03 generally indicating that those respondents who agreed did so more strongly than those who disagreed. Thirteen respondents indicated that this question was not applicable to them.

Sixty-two percent agreed that the audit process was worthwhile with 38% in disagreement and a rating average of 3.48. Seventy-seven percent felt that the auditor understood their

operation and 23% did not with an average rating of 2.86. Eighty-four percent agreed that the external technical expert(s) involved were qualified to assess the activities they observed with 12% in disagreement and a rating average of 2.43. Eighty-eight percent agreed that the audit(s) produced a fair assessment of their safety management systems with 11% in disagreement and a rating average of 2.68. Fifty-five percent indicated that it was clear to them why activities were included (or not) in the register with 44% indicating that it was not with a rating average of 3.57. Seventy-seven percent agreed that the auditor's approach to sampling activities in their operation made sense and 16% disagreed with an average rating of 2.88. Lastly, 76% agreed that the auditor's approach to sampling the locations in their operation made sense while 13% disagreed with a rating average of 2.85.

Table 20 presents the AAO ratings of the auditor who conducted their most recent audit on their professionalism, fairness, knowledge of the audit standard, knowledge of the activity, and understanding of the adventure activity standard. Adventure activity operators rated the auditor very positively with the majority of ratings in the good/very good range: Professionalism 87%, Fairness 82%, Knowledge of the Audit Standard 90%, Knowledge of the activity 68%, and Understanding of the Adventure Activity Standard 84%. Auditors were rated more in the fair/poor/very poor range in terms of knowledge of the activity than in the other areas.

Table 20: Rate the auditor who provided your most recent audit

	Very good	Good	Fair	Poor	Very Poor	N
Professionalism	82	37	15	5	3	141
Fairness	73	42	17	6	3	141
Knowledge of the audit standard	90	37	12	2	1	141
Knowledge your activity provide	59	37	26	11	8	141
Understanding of the adventure activity sector	77	41	15	3	6	141

Audit Consistency

Respondents were asked to indicate their agreement with a statement that the audits they've had have been consistent in terms of: Quality, Duration, Scope, Cost, Outcome, and Professionalism (Table 21). Level of agreement was expressed on a 6-point scale including: Agree very strongly (6), agree strongly (5), agree (4), disagree (3), disagree strongly (2), and disagree very strongly (1). A rating average is also included in Table 18 which indicates great agreement the higher it is.

The AAOs largely agreed that audits had been consistent on the selected parameters (Table 20). Seventy-seven percent that audits had been consistent in terms of quality while 23% disagreed. Audit duration was also agreed to be consistent by 73% of respondents with 27%

disagreeing. Audit scope received 79% agreement and 21% disagreement. Cost was most evenly divided with 62% agreeing that it was consistent and 38% disagreeing. Outcome consistency had the highest degree of agreement (87%) with only 13% disagreeing. Professionalism was also largely agreed to be consistent (84%) with 16% in disagreement.

Table 21: The audits we've had have been consistent in their:

	Agree Very Strongly	Agree Strongly	Agree	Disagree	Disagree Strongly	Disagree Very Strongly	Rating Average	N
Quality	19	21	69	22	4	6	2.92	141
Duration	14	22	67	22	9	7	3.08	141
Scope	16	19	77	18	6	5	2.96	141
Cost	12	18	57	29	9	16	3.38	141
Outcome	18	32	73	11	1	6	2.74	141
Professionalism	21	24	73	13	4	6	2.81	141

Consultation

Under standard audit practice, auditors and technical experts are prohibited from providing consultation on the resolution of compliance issues identified during an audit. Consultation is prohibited in order to preserve the standard of ethics to which auditors and technical experts are bound. However, when asked if technical experts involved in their audit helped to resolve conformance issues while on site or at any time, 58% of respondents indicated that they had (Table 22).

Table 22: Did the technical expert(s) involved in your audit help resolve conformance issues while onsite or at any time?

	Response Percent	Response Count
Yes	58.2%	82
No	41.8%	59
		141

Supporting Resources

Resources were funded by Worksafe to support AAOs in the development of their safety management systems. These primarily included phone support, the Support Adventure website, and the development of several Activity Safety Guidelines (ASGs). Most AAOs (64%) were satisfied with the Support Adventure website⁴¹ (Table 23) and only 8% were dissatisfied.

⁴¹ <http://www.supportadventure.co.nz/>

Table 23: How satisfied were you with the support made available on the Support Adventure website?

	Response Percent	Response Count
Very satisfied	16.3%	23
Satisfied	47.5%	67
Neither	28.4%	40
Dissatisfied	3.5%	5
Very dissatisfied	4.3%	6
		141

Respondents comments on the Support Adventure website extended to the advice available via phone and email and was almost entirely positive. It's clear that the AAOs found the templates and other guidance available very helpful when developing new SMS or adapting existing SMS to the Standard. Being able to talk to a person on the phone was mentioned emphatically as positive and desirable support, as were the newsletters. Some found the website difficult to navigate and the language cumbersome.

Adventure Safety Guidelines

Respondents were largely satisfied (54.6%) or had no position (27%) on the Adventure Safety Guidelines⁴² (ASGs) with only 18.4% expressing dissatisfaction (Table 24). Currently established ASGs and their versions include: Abseiling v2, All Terrain Vehicles v1.2, Alpine Hiking ASG v1, Canyoning v2, Caving v1.3, Coasteering v1.2, Dive v1.2, Heli-Skiing v1.2, High Wire and Swing v2.1, and Indoor Climbing v2.

Table 24: How satisfied were you with the Activity Safety Guidelines?

	Response Percent	Response Count
Very satisfied	8.5%	12
Satisfied	46.1%	65
Neither	27.0%	38
Dissatisfied	9.9%	14
Very dissatisfied	8.5%	12
Please comment on your response.		54
		141

Comments from respondents again covered a range of themes and positions. Some felt the ASGs were too technically specific while others felt they were too broad to aid a specific operation. Some questioned the process under which they developed and others thought they were very well set out. Some felt the ASGs were aimed at larger operations with greater risk exposure and others said that they were good benchmarks for assessing their operations. The

⁴² <http://www.supportadventure.co.nz/activity-specific-good-practice-information/activity-safety-guidelines#ASG>

ASGs were described by different operators as clearly written and useful or, in contrast, as confusing and hard to interpret.

One theme stands out regarding ASG development. Many expressed dissatisfactions with the timing of the ASGs – that they were not available to aid in the development of their SMS prior to the audit, and the lack of an ASG relevant to their activity. For example:

“There are kitesurf schools out there who are teaching unsafe practices, who are not wearing basic safety equipment like buoyancy aids and helmets, and who are passing an audit. The system is not achieving what it is set out to in terms of reducing risk, and maximising safety. Therefore, it is not working.”

And:

“Other than old documents for SKOANZ⁴³ and a few guidelines from MNZ the Sea Kayaking industry has very little information to govern or guide our operations. As someone who has been in the industry for 15 years with various companies and different regions I ran with the experience I have. It is difficult to have a TE contradict your experience but not have any ASG's to rely on.”

While some respondents appear to view the ASGs as rules to follow rather than as the guidelines they were intended to be, it was clear that the majority valued the ASGs as supporting resources and would rather have them than not. There was also a clear theme regarding a desire for greater communication from WorkSafe/Support Adventure when ASGs are going under review and updated versions are released.

Respondents were also asked to nominate what they felt should be the next three ASGs to be developed. The 62 activity references⁴⁴ were each assigned a weight relative to their preference (1st preference=3, 2nd preference=2, 3rd preference=1) and ranked according to their cumulative score. Table 25 lists the activities nominated for ASG development with the most preferred being: sea kayaking, mountain biking, outdoor rock climbing and white water kayaking. Activities were nominated that are not usually subject to registration (i.e. tramping/bush craft, horse trek/riding, archery, hunting and fishing). A third group included nominations for emergent aspects of existing activities – new challenge course activities and mountain bike tracks. This group seems to be a call for guidelines on how to appropriately break new ground in terms of both activity and location.

⁴³ <http://www.skoanz.org.nz/>

⁴⁴ There were nominations for guidelines for ancillary activities (air, land, and water transport) and for leadership related aspects which were not activity specific (i.e. conflict resolution) which were not included in the ASG preference rankings.

Table 25: Ranked AAO Preferences for New ASG Development

Rank	Activity	Rank	Activity
17	Tramping/Bush craft	3	Hunting and Fishing
14	Sea Kayaking	3	Inflatable ball rolling guidelines
11	Mountain Biking	3	Kitesurf instruction
11	Rock climbing (Outdoor)	3	New Challenge High ropes activities
10	Kayaking (White Water)	3	Snorkelling
8	Freedom Hire	3	Spearfishing
7	Horse Trek/Riding	3	Stand up paddleboarding
6	Mountaineering	3	Trampoline Parks
4	Freediving	2	ABL activities
3	4wd passenger operations	2	River safety
3	Archery	2	Ski Touring
3	Bungy	1	Emerging activities
3	Emergency rehearsals	1	New mountain bike tracks
3	Guiding	1	Waka Ama, Waka Tete

Sector Manager Interviews

When asked about their observations of the Scheme over the past three years, the Sector Managers (SMs) identified a variety of areas of progress and challenge. These are outlined in the following narrative.

On the whole the audit bodies have undergone a steep learning curve for the Scheme as have the AAOs. SMs expressed a view that the experience has produced more resilient systems within the CABs and better results for the clients. The SMs conveyed a sense that the outcome is a safer experience for the participants in registered adventure activities.

Each of the SMs expressed their own commitment to continual improvement and acknowledged the challenges they face in providing a quality, cost-effective service to the sector.

On a technical level, the change in the underlying guidance moved from being a product-based Standard (ISO 17065) to a management system-based standard (ISO 17021 and ANEX SL⁴⁵) as JAS ANZ became the accrediting body. The difference being that while an activity might be viewed as a product which is sold it is the operation of a SMS that is the Scheme's focus and that is a management and governance system. Having greater clarity of guidance standard has benefited the auditing to the adventure activity standard. Necessary refinements from the perspective of the SMs include greater clarity of reporting requirements and obligations under the standard (i.e. musts versus shoulds).

⁴⁵ <http://www.bsigroup.com/LocalFiles/nl-nl/iso-9001/BSI-Annex-SL-Whitepaper.pdf>

Several SMs discussed the opportunity to develop the Scheme and Standard further using the ANEX SL system being adopted across all new ISO standards. They were supportive of the idea that the current standard be developed to adopt the ANEX SL system in its format and structure. One SM offered the example of AAOs who have activities that are within scope of the NZAACS and activities that are not. Currently the CABs are allowed to audit both in a single audit visit but each has to be reported separately. This separate reporting requirement is an added cost to the AAO. If the NZAACS adopts the ANNEX SL system, then reports could be done in more streamlined fashion and reduce costs to effected AAOs. Furthermore, support was expressed for the alignment of the current Standard to the Adventure Tourism ISO 21101:2014⁴⁶ as a further refinement of the current arrangements.

Voluntary versus Regulatory Issues

The shift in 2013 from a voluntary system under the Outdoors New Zealand OutdoorsMark (ONZ) and the regulatory system under Worksafe New Zealand resulted in considerable change for all parties with a wide range of response. All of the SMs spoke of the resulting polarization among the AAOs: Some embraced the system and attempted to gain as much value from the audits as possible, while others expressed frustration and resentment and resisted changes being forced upon them. Several of the SMs conceptualized this range in terms of old thinking (*“I don’t know why we need this when we haven’t hurt anyone.”*) versus new (*“Show me where we can improve our systems and protect our participants, staff and business.”*). Some AAOs sit in the middle and express both viewpoints while supporting the Scheme.

It was clear the SMs felt that the AAOs were generally not familiar with the standard auditing model and their expectations continued to be based on the voluntary system. Key differences here are: 1) consultation was the basis of the voluntary system and under the Scheme consultation is prohibited; and 2) there was no penalty other than not receiving the ONZ OutdoorsMark certificate, whereas now registration is a requirement to operate. One SM expressed the view that with the 2015 Health and Safety Legislation the AAOs feel less as if they have been singled out as the bar has been raised for everyone in New Zealand.

Another SM pointed out that in other regulatory schemes (i.e. Food, Health and some Chemical Sectors) the client wants the lowest cost service as it is being forced upon them rather than seeking the added value available from a full and voluntary audit. Therefore, under regulatory systems AAOs might hide or not promote aspects of their operation in order to retain certification. In voluntary audit systems the clients want to 'get it all out there' in order to have an honest assessment done in order to gain the highest level of added value.

One SM related a story where an AAO had committed fraud by falsifying documents in order to hide a major nonconformity. The AAO subsequently corrected the deficiency and resubmitted for certification. This CAB declined to certify the AAO based on a serious

⁴⁶ http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=54857

concern regarding the character displayed by the AAO and the risk that the AAO would reoffend or was hiding other deficiencies. This tendency for the auditee to present a 'best face' on audit day is a well-known phenomenon in the audit industry and places particular importance on surveillance.

However, one SM related a transition in the Health Sector, where a regulatory system imposed on the rest home industry was initially unwelcome. Over time, the rest home industry recognized the value of certification as a decision making tool for individuals facing the difficult choice of where to lodge their aging and infirm parents or other loved ones. The sector began publishing their audit results in some depth as a guide to customers, which changed the sector perspective on the regulatory system in real terms.

Surveillance

Surveillance is an issue. Doing it rigorously increases costs to clients. Not doing it rigorously increases risks to participants. Concern with issues around surveillance activities was common among the SMs – particularly around issues of adequacy and cost. The big question for one CAB is 'what is the best way to do surveillance?' They are not comfortable with how it's being done currently. Cost pressure plus issues with confidence in the surveillance system has a negative effect on sector safety. Several SMs proposed 'mystery shopper' surveillance as a potential method to address the 'best face' conundrum, however there was uncertainty as to how the payment/cost issues would be implemented.

Declarations of conformity were a sustained topic with the SMs. Some don't use declarations of conformity for any audited sector, others expressed the view that their use of declarations of conformity will decrease over time and be eventually phased out. When using Declarations of Conformity one CAB will be requiring greater levels of clear and concise information on AAO operations as adequate supporting documentation. They described the decision to allow Declarations of Conformity for a given client as being reliant on technical work instructions for AAO audits plus a 'degree of comfort' in the decision. This CAB would like to do SNAP or no notice surveillance assessments. They are exploring trigger mechanisms for investigating declarations of conformity, complaints (particularly by competitors), unannounced audits (can they do it?) in terms of contracting definitions and the terms and conditions.

Technical Experts

Concern was expressed with the basis on which TEs operate during the audit process. In more mature audit sectors clear guidance on good practice and standards of compliance to technical aspects have been developed to guide TE decision making and assessment. In those sectors the TE is required to interact only with the auditor in most cases and to only provide comment when it is requested from the auditor on technical matters. This system exists to

protect all parties from the appearance of impropriety regarding consultation and conflicts of interest.

While the guidance on the selection of TEs is relatively robust, the TEs in the Scheme are do not all have access to definitive good practice and assessment documentation. The development of ASGs helps establish good practice within particular activities, but the range of ASGs does not cover the range of existing activities. Furthermore, the ASGs do not provide specific guidance on the assessment standards⁴⁷ for activities. Some SMs pointed out that this gap generates unhelpful tension between the CAB and the AAO in matters of disputed compliance.

Technical experts in this scheme are a shared resource among the CABs and for some this creates a competitive tension regarding TE training and development for some CABs; others expressed the need to develop TE capabilities regardless of their shared nature. The prevailing view was that the TEs were not trained initially in standard auditing models and that this created issues around consultation, good practice. Some struggle with the auditing vs consulting line. Indeed, there were 284 instances of observations in the conformance data which were phrased as directive or consultative in nature. However, all of the SMs indicated that these were legacy issues and decreasing rapidly⁴⁸.

Time versus Cost

The CABs rely in the Audit Duration Table (P. 31 of the Scheme) to determine the length of time required for an audit with variations in time due to logistics. As many activities are based in remote locations there can be additional time invoiced for travel. Operations with multiple sites and activities will require additional time, which is recognized by the Scheme. If there is significant risk with an AAO or the activity being audited, audit bodies can notify JAS ANZ if there is more than a 25% increase in time required. Several SMs indicated that the half day allocated for document review is inadequate – particularly for larger and or more complex operations.

The SMs all acknowledged the cost pressures placed on AAOs by auditing. However, the CABs are limited in their ability to alleviate these costs. Several CABs charge reduced rates for audit fees, TE rates and travel for this scheme than they do for other sectors. The CABs charge their clients based on audit days and the rate ranges from \$1300-\$1800 per day. Technical experts are charged out in the same manner with usually lessor rates. Costs for travel and expenses are passed on to the AAO as per normal business procedure.

⁴⁷ Assessment standards would guide users on decision making relative to compliance.

⁴⁸ In 2015 JAS ANZ issued guidance for Technical Experts which addresses core roles and responsibilities of the TE in an auditing environment. Two information sessions were held by Support Adventure which discussed the guidance document, good practice and revision of the ASGs.

Once factor which increases costs is scheduling as it adds costs due to seasonality and split visits to cover activities that are out of season when at the time of the scheduled audit. The SMs identified several ways in which they are improving their own systems as familiarity with the Scheme grows with time. These include: Better estimation of cost vs time that's invoiced to the AAO, aiming to have the Auditor and TE in the same person 50% of the time, and All sites have initial visit and then rotate through visits.

Several SMs noted that some AAOs are overspending on consulting and 'industrial' solutions without actually considering scheme requirements (i.e. Using a forestry solution for an adventure operation) which drives up cost when the result does not comply with the Standard. At the same time there are single person operators who are developing and SMS using available resources (i.e. Support Adventure) at much less cost. These types apparently have very few non conformities and are quick to remedy those they do have.

Site and Activity Sampling

Under the standard audit model guidance provided by the International Accreditation Forum, Inc.⁴⁹ is used to establish sampling methodology. However, this guidance appears not to be useful in the Scheme due to the relatively low number of activities and sites even the largest AAOs have on offer. For example, IAF MD 1:2007 calls for a sample size that is the "square root of the number of remote sites" (p. 12). As such the CABs have developed their own approaches to site and activity sampling that vary depending on the complexity of the activity and the risk components – heli-skiing vs sea kayaking for example. Choosing a representative activity or component of an activity at the upper level of risk associated with that operation and audit it from beginning to end. Again seasonality has presented challenges in developing audit schedules.

The SMs identified a preference for AAOs to group their own sites to eliminate the administrative cost of the auditor doing it. There was a preference for the Standard to be more explicit on developing new activities and sites. One CAB's audit practise is to require AAOs to have a systemic approach to new sites or activity that assesses the hazards and have technical expert assessment, requires instructor qualifications and then to follow their own SMS. Also, some vary sampling by AAO because of their performance against the standard over time which is supported by the Scheme.

All the SMs expressed concern with specifying activity scope. The example most frequently given was that of certification for "All New Zealand Waters" in diving. This is potentially problematic from a risk perspective when not taking all the potential site characteristics into consideration. For diving this could include ice, night, wrecks, current, cave environments among others. This is an area where TEs can provide guidance to CABs to achieve greater specificity of risk profile within an activity. Most SMs are in process of clearing out the "All

⁴⁹ IAF Mandatory Document for the Certification of Multiple Sites Based on Sampling. Issue 1, Version 3, (IAF MD 1:2007).

New Zealand Waters” statements and requiring SOPs for activity/sites. More thorough risk assessment of the activities can be provided as a part of the process to identify the scope of the audit. This is an opportunity for TE development.

In terms of audit methodology, ISO 17021 sets out the audit process and this is the standard against which the CABs are accredited by JAS ANZ with specific variations in process (i.e. Seasonality). Essentially this consists of a desktop of documentation against requirements of the Standard and onsite audits where documentation is checked and activities are observed by the auditor and/or technical expert. An audit plan is developed where documentation issues are captured and generally corrected prior to site visit.

There is scope in the Scheme for the use of remote TEs – where the auditor can contact a TE via phone to inquire about technical aspects of what they are observing. The SMs were divided on the use of this capacity, with some not choosing to use remote TEs at all.

Auditors are required to have a lead auditor qualification in Quality Management Systems (ISO 9001:2015) and internal staff training plus an audit assessment. All CABs require auditors to have some period of direct experience in the sector prior to engagement. This is a standard arrangement regardless of audit sector – though the ISO in question will vary. According to the SMs this helps understand the business and give insight and understanding of the nuance that others might not pick up on. Another SM hires staff ‘who have the moral courage to make the call’.

Benchmarks for conformance are established in the Scheme and these are common in the auditing sector. Some CABs are developing TE training packages with discussion of compliance vs good practice in order to further support standards and decision-making during the audit process.

One SM noted that being located within a sole-sector auditor business model potentially creates issues with depth of auditing experience. It was generally expressed that TEs need more support from CABs – particularly as the TE mitigates the CABs risk. There are potential problems with conflict of interest in terms of good practice and consulting.

One SM recommends a solution in a TE code of understanding (ethics, behaviour) developed by WorkSafe as money spent by CABs gets passed on to clients. Similarly, a preference for a streamlined process of TE qualification, attendance requests translated into CAB system and online training. Other SMs noted that their CABs are developing up TE training and that it is ultimately up to CABs to manage this in their own systems.

Another conformance related issue lies in AAOs laying complaints about other AAOs for competitive reasons which costs time to resolve and consumes resources. Several SMs related stories of this nature. One suggestion included a penalty for ‘no just cause’. There have also been issues with aggrieved employees reporting unjustified complaints as well. These add to the overhead costs of the CABs and ultimately the AAOs.

The SMs were asked to share any other observations they have made about the scheme or the standard. Several comments focused on the need for the Standard to be revised – it's not clear what is not mandatory. There are 'shoulds' that are actually 'musts' whereas 'may' is totally voluntary. Requirements need review, but the 'shoulds' need particular attention.

Timeframes for reporting was another theme with the surveillance requirement within 12 months needs leeway and consideration of peak season issues – reporting needs to be staggered across the year.

Scope of operations certified against the standard in terms of activity: Horse trekking, rafting, SUP for example. While schools have legitimate reasons not to be registered the exclusion for clubs is a 'bit of a get out' in the view of some SMs. Similarly, within activities there are inconsistencies: Climbing walls for example. Outside climbing walls are in scope and inside walls are not. Other questions arise from the issue of Freedom Rentals and what is appropriate to do when the AAO is offering this service. The SMs would like more guidance – particularly when this is considered out of scope.

Another concern of the SMs was that activity in developing ASGs has apparently dropped off. They are a positive for the sector and need to be funded by government. The ASGs level out the TE by providing supportive guidance and information. From the CAB perspective – the more guidance they can get the better the system is and communications from TIA and WorkSafe on ASGs could be more proactive.

Summary of Findings

Project Deliverables

The following points were identified a project deliverables and included are findings relevant to those deliverables.

1. Consistent audit activity across the adventure activity operators (AAOs) with respect to levels of non-conformance

Prior to recognition by WorkSafe as audit providers for the purpose of the regulations, the audit bodies were reviewed by third-parties (Ernst & Young, JAS ANZ) to establish their capacity to support consistent audit activities. The AAO survey respondents largely agreed that audits had been consistent on selected parameters.

Levels of non-conformance are established in the Scheme as well as by standard auditing procedures (e.g. ISO 17021). Non-conformances are categorised as major or minor depending on the level of risk created, their level of development and inclusion in the safety management system.

Non-conformities relating directly to operating procedures and personnel are more likely to be treated as a higher level of objective risk. Non-conformities relating mainly to documentation are generally treated as a lower level of risk.

Conformance to the Standard by AAOs is demonstrated in Tables 5-13, A1-A8.

2. Time taken for audits (duration)

Audit duration is established in the Scheme and Certified Audit Bodies (CABs) sector managers confirmed during their interviews that this table provides the basis for planning audits (Page 21).

Several factors can contribute to variations in the duration of an audit. These include location of the operation, number and variety of activities under audit, and the seasonality of the activities. The logistics of auditors and technical experts traveling to and from activity locations and the seasonal availability of activities can extend audit duration.

Seventy-three percent of AAO survey respondents agreed that audit duration was consistent. (Table 21)

3. Relative cost of audits (i.e. comparing the level of fees for audits of similar scale, scope and type of activity across CABs).

The CAB sector managers were queried about their charges to clients and reported a range of \$1300-\$1800 in fees per auditor per day of audit activity. Charges for technical experts were reported to be 50-100% of the day rate assessed for auditors.

The CABs pass along expense costs (i.e. travel, food and accommodation) to the AAO under audit as per normal business practice. The sector managers confirmed that these rates are the same charged out to auditees in other industry sectors.

Adventure activity operations with greater scope and scale of operations incur cost in proportion to the required audit duration, number of technical experts and logistics of travel and seasonality.

Other costs incurred by the AAOs include those of consultants, engineering reports, new or modified equipment as well as manager and staff time to develop a compliant safety management system. The latter should decrease over time for existing businesses.

4. Scope of audit

The CAB sector managers confirmed that the scope of audits is determined by the Scheme. For particular AAOs a scope of audit is developed by the CAB that reflects the registerable activities of the operation. (Page 42)

Seventy-nine percent of the AAOs agreed that audits had been consistent in their scope (Table 12).

5. Consistency across CABs

Audit methodologies

CAB sector managers confirm that the audit methodology is as set out in the Scheme and in ISO 17021. However, each CAB maintains its own business practices and audit staff. All the CABs noted significant developments in their processes over the initial three years of the regulatory Scheme.

All the CABs expressed the desire for continued development of guidance documents (such as the ASGs) to provide increased assurance on questions of good practice and conformance.

Categorising audit findings (e.g. benchmark for pass/fail)

Each CAB relies on a stated framework or guidance document that sets out the benchmarks for non-conformance and overall pass/fail. These are derived from the Scheme and are included in each audit report. For each NC the AAOs are given a declared amount of time to achieve compliance. This time can vary from ‘immediately’ to ‘prior to the next audit’ depending on the hazard involved with the NC in question.

Areas of inconsistency

Observations stated as directive or as consultation were apparent in the audit report data with 284 instances. Fifty-eight percent of AAO survey respondents indicated that technical experts involved in their audits helped resolve conformance issues – which is considered consultation and is prohibited in the standard auditing model (Table 22). While this practice is inconsistent with the standard model, it was recognized by the SMs as part of the learning curve associated with the new regulatory scheme and a focus for ongoing training and development for auditors and technical experts.

Each of the CABs maintains its own business model and operational processes. While these are different and unique to the CAB, they each strive to adhere to the Scheme as it is set out. The accreditation process can be expected to address any variations likely to cause significant inconsistency in auditing.

The pre-Scheme ONZ audits clearly reflect a different focus and level than the Scheme-led audit reports. The difference between the advisory/consultative system and the current regulatory system is very apparent in the data. As these are now legacy issues their impact on the consistency of auditing and performance will diminish with time.

6. Trends including a comparative analysis of AAOs previously certified with ONZ OutdoorsMark or similar around non-conformance within and across AAOs

The non-conformance data shows clearly where AAOs have lacked compliance.

Major non-conformances were concentrated in operational risk management areas of Hazard Management, Standard Operating Procedures and Incident Management (Table 13). Leadership and Management had the greatest overall number of conformance issues.

Audit reports generated under the pre-Scheme ONZ OutdoorsMark are clearly different in form and focus than those generated after the Scheme was in place. Direct comparison is difficult. From 2013 all of the ONZ certified AAOs were assessed in turn according to the new Scheme and Standard.

7. Performance and benefits of cross-activity and multi-site audits

There are some issues with sampling strategies utilized in auditing as they are designed to sample from a large number of sites within an organization. When attempting to sample from a small number of sites within an organization the ISO standard sampling strategy is not directly applicable. The CABs have adopted methods that get them across all the sites in time

to meet Scheme requirements, however this approach is in need of consideration. The Scheme would benefit from additional guidance on this issue.

Time and cost factors are raised by the AAOs in regard to this aspect, however it may be unavoidable and a cost of doing business. This is particularly true with surveillance issues.

8. Safety management benefits of audit process

It is apparent that the SMS in the adventure activity space have been strengthened considerably against the standard. While some have chosen to reduce their activity scope or close their business rather than achieve registration, the majority have taken up the challenge and succeeded (Table 5).

A total of 3484 non-conformances with the Safety Audit Standard were identified over three years, of which 21% were major non-conformities. These conformance issues have been resolved to the satisfaction of the audit bodies indicating that the Scheme has led to changes in safety management for a number of operators.

Major non-conformances were concentrated in operational risk management areas of Hazard Management, Standard Operating Procedures and Incident Management (Table 13). Leadership and Management had the greatest overall number of conformance issues. The standard had the greatest impact on a per item basis with Incident Management and Emergency Preparedness and Response Plans.

No part of the Standard was fully complied with across the whole data set – there was one or more non-conformity (somewhere in the industry) against every requirement of the standard, over a 3-year period. A small number of these requirements had only minor non-conformities but 62 percent of them were associated with one or more major non-conformities.

A small majority of operators acknowledge moderate or high value gained from the requirements of the Standard (Table 14)

Other findings

The following findings arise from the data analysed in this study and, to some degree, the perspectives and experience of the researcher with the operation and delivery of adventure activities and safety management, professional audit standards, the Scheme and Standard, and provision of technical expertise.

Alignment of the Scheme to ANNEX SL and with ISO 21101:2014 Adventure Tourism Safety Management Systems would 1) locate the NZAACS appropriately in the standard audit model and 2) provide for opportunities for international communities to pursue similar standards with New Zealand's efforts serving as a guide. Two main benefits accrue here: Firstly, expanding the number of international auditors and technical experts familiar and experienced with the Scheme and Standard would increase the pool of potential auditors and technical experts available in New Zealand; and secondly alignment with the above furthers the professionalism and credibility associated with the New Zealand Scheme at home and abroad.

Additionally, linkage of the Scheme to ISO 21101:2014 encourages AAOs with activities outside the registration requirements to seek certification to the ISO standard due to the positive perception of ISO certification and potential for growth of their businesses. Currently, the avenue for a new business to register as an AAO requires a complete and functional safety management system to be available for audit. It was clear from the data (i.e. SM and AAO comments) that having these resources available for new – as well as existing – operators was both desirable and useful in their development of SMS.

There is both confusion and consternation in the sector (i.e. SM and AAO comments) regarding which activities are considered susceptible to certification and registration and which are not. There is apparent inequity created when registration is not applied to an activity across all providers of high risk activities in that there are categories of provider which were excluded from registration requirements. Further, activities (e.g. horsetrekking, rafting, etc.) were excluded which clearly reside within any reasonable definition of adventure activity. Moreover, there are cases where there is insufficient specificity within activities in terms of the scope of registered operations and distinctions where certification is required and where it is not.

While it is understood that the CABs operate individual business models, there is value in facilitating continual improvement of the Scheme and Standard via comparison of performance data across all AAOs. This would enable tracking and assessment of trends in conformance and safety management in the sector. Specifically, Encouraging uniformity of reporting by audit bodies permits the tracking of conformance trends over time – particularly from changes in the Standard – and in addition it would allow potential association with reported accident and incident data. Enhanced tracking of this nature would benefit all the stakeholders in the adventure activity sector.

Surveillance poses challenges to effective auditing. On the one hand, increased surveillance places cost pressure on the auditor and therefore the AAO. On the other, a lack of effective surveillance decreases the validity of certification and registration of AAOs and their SMS. However, it was clear from discussions with the CAB SMs that while expensive surveillance remains an important aspect of the Scheme and that options for enhancing surveillance be explored and several options were put forward.

One aspect of surveillance which is of special concern are Declarations of Conformity. Declarations of conformity are where an audit body permits the AAO to self-certify their compliance with the Standard for a period of time. Essentially this mechanism bypasses the normal surveillance which occurs in the standard audit model. Declarations of conformity are not utilized in other sectors as credible audit mechanisms. Currently two of the CABs utilize this mechanism and two do not which has the potential to 1) create inequity in the application of the Standard and 2) permit non-conforming SMS and/or unsafe behaviour to continue for extended periods of time. In the adventure activity sector these eventualities equate to real risks to sector stakeholders.

While auditors have professional training requirements in auditing, technical experts in this Scheme have thus far had little in the way of training in the audit process. While JAS ANZ

has issued guidance on the issue and the CABs are developing guidance documents, the fact that the TEs in the Scheme remain a shared and limited resource.

It is clear from the data that certain clients of the AAOs (particularly schools and government agencies) are beginning to require evidence of certification and registration prior to engagement to provide services. However, there was also a clear view that many clients were unaware of the NZAACS.

Recommendations

While it is clear that the Scheme and Standard have worked to improve safety management in New Zealand adventure activity provision, there is room for further refinement.

The following recommendations arise from the data analysed in this study and, to some degree, the perspectives and experience of the researcher with the operation and delivery of adventure activities and safety management, professional audit standards, the Scheme and Standard, and provision of technical expertise.

Scheme and Standard

It is recommended that the Scheme and the Standard be aligned to Annex SL and ISO 21101 at the next opportunity.

It is recommended that further guidance on sampling should be added to the Scheme

Continued sector support

It is recommended that there be continued provision of industry support (e.g. Support Adventure resources, Adventure Safety Guidelines, etc.). These are recognized across the sector as valuable resources and guidance. They may enhance economic growth, by guiding new AAOs with a clear pathway to seek registration

In addition, the ASGs provide the primary guidance on good practice for activities in many cases.

Activities subject to registration

It is recommended that susceptibility be reviewed and revised where: 1) activity serves as the primary consideration and type of provider is set aside, 2) all activities which fall within a reasonable definition of adventure activity be included, and 3) technical experts within activities be consulted on whether activities are treated with sufficient specificity by the Standard with a view to creation and revision of relevant ASGs.

Audit Body Reporting

It is recommended that audit bodies be required to cite conformance conditions (Major, Minor, Observation, Opportunities for Improvement) at the specific line of the Standard (i.e. 4.2.3.A drug or alcohol impairment of any person involved in a safety-sensitive role in the activity).

It is recommended that audit bodies should reduce the use of complicated and embedded tables in audit reports **and/or** that the Scheme should require conformance data to be added to a database to be maintained by the regulator.

Declarations of Conformity

It is recommended that declarations of conformity be discontinued in the NZAACS.

Technical Expert Training

It is recommended that the regulator sponsor the development and delivery of training for TEs in the Scheme and the auditing process.

Highlight compliance benefits

It is recommended that the regulator, the CABs and the AAOs seek and pursue methods to encourage sharing of certification with stakeholders (i.e. clients, suppliers, industry bodies, etc.) as there is evidence that these groups appreciate positive values associated with operator registration and the implied increase in safe operations.

Appendices

Audit Report Data Tables

Table A1: Conformance with Section 2 Safety Management System Requirements						
	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
2 Safety management system (SMS) requirements	2	13	15	15.31	3	7
2.1 The operator must establish, document, implement, maintain, and continually improve an SMS in accordance with the requirements of this standard, as below, and must determine how they will fulfil these requirements.	3	7	10	10.20	1	1
2.2 The SMS must include an overarching safety management policy. The policy must express the operator's commitment to compliance with health and safety legislation, prevention of serious harm, and continual improvement.	3	41	44	44.90	8	1
2.3 The operator should have a document or statement summarizing the components of their SMS and how they relate to each other.	2	13	15	15.31	19	1
2.4 The further requirements of this standard are set out in the following sections corresponding to the elements of an SMS, comprising	0	0	0	0.00	1	0
2.4.1 leadership and management hazard management standard operating procedures (SOPs) emergency preparedness and response plans incident management document control continual improvement	0	1	1	1.02	2	1
2.5 Note An SMS can differ from one operator to another due to the a) size of operation and type and range of adventure activities b) complexity of the adventure activities c) competence of persons leading the adventure activities.	6	7	13	13.27	1	1
Totals	16	82	98	100	35	12

Table A2: Conformance with Section 3 Leadership and Management

	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
3 Leadership and Management	0	0	0	0.00	1	0
3.1 Top leadership commitment	0	5	5	0.47	2	2
3.1.1 Top leadership should approve the operator's safety management policy.	1	45	46	4.29	25	3
3.1.2 Top leadership should demonstrate its commitment to the development and implementation of the SMS, and to continually improving its effectiveness, by	0	4	4	0.37	2	0
3.1.2.A ensuring that the importance of effective safety management, and of conforming to the SMS, is communicated to staff, participants, contractors and relevant other parties	2	19	21	1.96	22	1
3.1.2.B providing the resources to establish, implement, maintain and continually improve the SMS	0	6	6	0.56	20	0
3.1.2.C requiring and reviewing regular reports on safety performance	1	35	36	3.36	25	2
3.1.2.D ensuring operations comply with health and safety legislation, and that the SMS achieves its intended goals and objectives.	0	19	19	1.77	26	1
3.2 Legislation, standards, codes of practice and guidelines	3	7	10	0.93	5	9
3.2.1 The operator must identify the legislation (including local bylaws), standards, activity safety guidelines, codes of practice, and similar information that is relevant to the safe management of their adventure activities.	0	59	59	5.50	18	4
3.2.1.1 Similarly, the operator should do this for their ancillary services.	3	10	13	1.21	21	1
3.2.2 This information must be used to inform development of the SMS. Reports	2	23	25	2.33	35	2

obtained by the operator from technical experts should also be used to inform development of the SMS.						
3.2.3 The operator must monitor this information to ensure the SMS remains up-to-date and consistent with any changes as appropriate and that their operations continue to comply with such requirements.	0	56	56	5.22	7	2
3.3 Safety goals and objectives	0	6	6	0.56	3	13
3.3.1 The operator must set goals and objectives that address safety and effect improvement. Objectives should be specific, measurable, achievable, relevant and time-bound.	2	63	65	6.06	27	2
3.3.1.1 Note Safety objectives are steps towards achieving broader safety goals, and may relate to areas such as, for example, individual training plans, training courses, or peer reviews.	0	5	5	0.47	0	1
3.3.2 When establishing safety objectives, the operator should consider	0	17	17	1.58	26	1
3.3.2.a hazards and risks	0	3	3	0.28	3	1
3.3.2.b technology and usage options	0	0	0	0.00	4	0
3.3.2.c financial, operational and business requirements	0	1	1	0.09	3	0
3.3.2.d the views of staff and relevant other parties	1	26	27	2.52	2	0
3.3.3 The operator must involve staff in establishing safety objectives and implementing plans to meet them, and must monitor and record the results.	4	79	83	7.74	5	1
3.4 Roles, responsibilities and authority	0	3	3	0.28	2	0
3.4.1 The operator must ensure that staff comply with the relevant requirements of the SMS.	4	30	34	3.17	3	0
3.4.2 The operator must ensure that specific authorities and responsibilities for safety requirements are assigned to competent staff. As appropriate, such responsibilities should be recorded in performance agreements, contracts or other documentation.	1	56	57	5.31	5	0
3.4.3 Roles, responsibilities and authorities must be communicated to staff to ensure there is a clear understanding of who is responsible at any given time for each aspect	5	26	31	2.89	3	0

of ensuring the safety of every person associated with the activity.						
3.4.4 The operator must assign responsibility and authority for	0	37	37	3.45	4	0
3.4.4.a ensuring the SMS complies with the requirements of this standard	0	8	8	0.75	0	0
3.4.4.b reviewing and evaluating the performance of the SMS	0	46	46	4.29	1	0
3.4.4.c monitoring the performance of staff in relation to assigned responsibilities and delegations	2	61	63	5.87	5	1
3.4.4.d regularly reporting to top leadership on safety performance	0	7	7	0.65	1	0
3.4.4.e reviewing incidents	1	28	29	2.70	3	1
3.4.5 Note An individual who operates without staff will have the full responsibility.	0	0	0	0.00	0	0
3.5 Communication	0	7	7	0.65	3	20
3.5.1 The operator must establish, implement and maintain procedures for communicating relevant safety information to staff, participants, potential participants and other parties.	8	28	36	3.36	6	1
3.5.2 The operator must have procedures for risk disclosure between the operator and participant, and subsequent acknowledgement.	7	36	43	4.01	8	4
3.5.3 The operator must establish and maintain policies and procedures for receiving complaints and using any complaints about safety to review the SMS.	1	44	45	4.19	11	0
3.5.4 Safety must be addressed regularly at internal meetings. Decisions and any action points arising from these meetings must be communicated to staff and implemented.	6	39	45	4.19	6	4
3.6 Staff induction and training	4	7	11	1.03	0	7
3.6.1 Staff must be inducted into the operator's SMS before they take responsibility for others within an activity. (2)	11	25	36	3.36	3	1
3.6.2 Employees should have a training plan.	1	27	28	2.61	33	1
Totals	70	1003	1073	100	379	86

Table A3: Conformance with Section 4 Hazard Management

	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
4 Hazard management	0	1	1	0.22	5	0
4.1 Hazard identification and assessment	6	11	17	3.79	3	13
4.1.1 The operator must implement a systematic process to	33	25	58	12.95	16	0
4.1.1.a identify hazards	7	3	10	2.23	14	0
4.1.1.b assess them for significance	5	2	7	1.56	11	0
4.1.2 The operator must ensure that a technical expert, either in-house or external, is involved in this process of identification and assessment.	17	36	53	11.83	6	1
4.1.3 Note This standard does not prescribe the method used to determine significance.	0	0	0	0.00	2	0
4.2 Significant hazards	8	2	10	2.23	1	0
4.2.1 The operator must take all practicable steps to manage the risks created by hazards that are assessed to be significant.	10	2	12	2.68	4	1
4.2.2 In managing the risks created by a significant hazard, the operator must take all practicable steps to	49	40	89	19.87	7	2
4.2.2.a eliminate the hazard, or if that is not practicable	8	0	8	1.79	3	0
4.2.2.b isolate the hazard, or if that is not practicable	5	0	5	1.12	2	0
4.2.2.c minimise the likelihood that the hazard will be a cause or source of harm	6	0	6	1.34	2	0
4.2.3 Note Significant hazards, and operating conditions that increase risk, common to most adventure activities include	1	0	1	0.22	0	0
4.2.3.a drug or alcohol impairment of any person involved in a safety-sensitive role in the activity	0	0	0	0.00	0	0
4.2.3.b weather – directly and indirectly affecting the activity, including the effects of the weather on the environment	0	1	1	0.22	0	0
4.2.3.c participant abilities that could affect safety management, including language	0	0	0	0.00	0	0

comprehension, technical skill level, behaviour, and physical and mental fitness (including drug or alcohol impairment)						
4.2.3.d isolation from medical services.	0	0	0	0.00	0	0
4.3 Drug and alcohol use	2	4	6	1.34	2	9
4.3.1 The operator must assess the level of risk to their operations caused by staff being impaired by drug and alcohol use. The risk assessment must take into account the nature of the activities provided by the operator, and the nature of their workforce	26	27	53	11.83	0	0
4.3.2 The operator must have a policy for managing the risk of drug and alcohol impairment among staff. The policy must be based on the assessed risk level.	28	32	60	13.39	1	0
4.3.3 The policy must include the operator's methods for monitoring the drug and alcohol hazard, and their plans for responding to staff impairment due to drugs or alcohol.	6	8	14	3.13	1	0
4.3.4 The operator should involve staff in risk assessment and policy development.	6	30	36	8.04	24	1
4.3.5 Note Operators should refer to the publication 'Guidance for Managing Drug and Alcohol-Related Risks in Adventure Activities' (The Ministry of Business, Innovation and Employment, January 2013) for assistance.	1	0	1	0.22	3	0
Totals	224	224	448	100	107	27

Table A4: Conformance with Section 5 Standard Operating Procedures

	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
5 Standard Operating Procedures (SOPs)	0	2	2	0.25	0	0
5.1 Activity SOPs	6	6	12	1.49	1	10
5.1.1 The operator must develop, implement and maintain SOPs for each activity.	16	24	40	4.98	11	2

5.1.2 SOPs must conform to good practice for the activity, and address each of the following items under this section on SOPs.	11	13	24	2.99	6	1
5.2 Staff competence	7	14	21	2.62	2	14
5.2.1 SOPs must describe the required staff competence for each activity. A formal and systematic task assessment must be conducted for each activity to determine the required staff competence.	22	72	94	11.71	4	2
5.2.2 The operator must ensure staff have the required competence for their assigned tasks or are supervised by someone with the required competence.	13	23	36	4.48	3	1
5.2.3 The operator must ensure staff have their competence verified through appropriate processes of assessment and revalidation.	24	45	69	8.59	10	0
5.2.4 Note Nationally recognised qualifications should be used where relevant.	1	1	2	0.25	0	0
5.3 Dynamic management of hazards	3	0	3	0.37	0	4
5.3.1 In addition to outlining control measures for significant hazards, SOPs must require staff to continually identify and manage hazards during each activity.	29	37	66	8.22	5	2
5.3.2 Staff must have the authority to halt an activity if a hazard threatens the safety of any person associated with the activity.	12	27	39	4.86	1	0
5.4 Supervision structures	2	0	2	0.25	0	0
5.4.1 The operator must ensure participants are adequately supervised. SOPs must specify	15	23	38	4.73	3	1
5.4.1.A the maximum ratio of participants to staff for each activity as determined by good practice	8	5	13	1.62	2	1
5.4.1.B the positioning of staff in relation to participants during the activity	11	14	25	3.11	0	1
5.4.1.C how and when supervision ratios and positioning should change for differing circumstances.	13	18	31	3.86	2	2
Note Circumstances requiring changes to supervision structures could include differing participant abilities, weather conditions, staff competence and time constraints.	2	5	7	0.87	0	0
5.5 Clothing and equipment	2	13	15	1.87	3	12

5.5.1 SOPs must specify the clothing and equipment required to ensure safety during the activity.	10	23	33	4.11	3	1
5.5.2 The operator must ensure there is sufficient clothing and equipment for the intended activity, and that it is suitably stored and maintained.	22	41	63	7.85	9	1
5.5.3 The operator must ensure staff and participants are clothed and equipped for the activity in accordance with the SOP.	11	18	29	3.61	3	0
5.5.4 The operator must ensure that clothing and equipment used is fit for purpose whether provided by the operator, the participant or a third party.	18	41	59	7.35	12	2
5.6 Field communications	1	2	3	0.37	1	3
5.6.1 The operator must develop, implement and maintain procedures that enable staff to seek assistance during the activity.	14	21	35	4.36	20	1
5.6.2 Note When developing procedures for field communications, the operator should take into account	0	0	0	0.00	1	0
a) the nature of the activity	0	0	0	0.00	1	0
b) the age and abilities of participants	0	0	0	0.00	0	0
c) available technology	0	0	0	0.00	5	0
d) the operating environment, including access to medical services	0	0	0	0.00	4	0
5.7 Ancillary services	2	1	3	0.37	3	2
5.7.1 The operator should develop, implement and maintain SOPs for their ancillary services.	11	28	39	4.86	23	5
Totals	286	517	803	100	138	68

Table A5: Conformance with Section 6: Emergency Preparedness and Response Plans

	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
6 Emergency Preparedness and Response Plans	4	9	13	4.53	5	10
6.1 The operator must establish and maintain emergency preparedness and response plans for foreseeable emergencies.	11	28	39	13.59	5	0
6.2 The plans must include procedures for	2	6	8	2.79	0	0
a) stabilising the situation and accounting for staff and participants	3	11	14	4.88	2	0
b) assigning responsibilities and authority for implementing emergency response plans, including who must notify emergency services and when.	8	23	31	10.80	3	0
6.3 The emergency preparedness and response plans must be known by staff and made available to participants and other relevant parties.	17	28	45	15.68	11	0
6.4 The emergency preparedness and response plans must be tested and reviewed periodically, reviewed after an incident or emergency, and revised as required.	9	60	69	24.04	7	2
6.4.1 Note Other relevant parties may include the local police.	0	0	0	0.00	2	0
6.5 Adequate first aid supplies must be available at all times during the activity.	2	18	20	6.97	9	1
6.6 The operator must ensure that staff and participants have ready access to someone with an appropriate and current first aid qualification.	15	33	48	16.72	3	1
Totals	71	216	287	100.00	47	14

Table A6: Conformance with Section 7: Incident Management						
	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
7 Incident Management	0	0	0	0.00	0	0
7.1 Incident response	3	8	11	4.04	1	8
7.1.1 The operator must develop procedures for responding to incidents, including communicating and recording incidents internally, and reporting serious harm to the relevant authority.	3	43	46	16.91	7	1
7.1.2 The procedures for recording and reporting incidents must be communicated to staff.	0	21	21	7.72	4	1
7.1.3 Note Section 25 of the HSE Act sets out the legal requirements for recording and notification of accidents and serious harm.	0	19	19	6.99	1	0
7.2 Incident review	4	7	11	4.04	4	8
7.2.1 The operator must establish a process for investigating and reviewing incidents, understanding the underlying causes, identifying improvements to the SMS, and analysing trends.	32	94	126	46.32	9	1
7.2.1.A Note This includes the requirement in the HSE Act for an employer to investigate any accident or harm covered by section 25(1) so as to determine whether it was caused by or arose from a significant hazard.	0	1	1	0.37	1	0
7.2.2 Recommendations from incident reviews must be implemented and communicated to staff and relevant other parties.	6	31	37	13.60	7	1
Totals	48	224	272	100	34	20

Table A7: Conformance with Section 8: Document Control						
	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
8 Document Control	0	12	12	8.22	2	17
8.1 The operator must ensure that the documented information required for the SMS is	0	6	6	4.11	2	0
8.1.A readable, identifiable and traceable to the activity	2	30	32	21.92	4	2
8.1.B periodically reviewed, and revised where necessary	0	10	10	6.85	1	0
8.1.C signed off as adequate by a competent and responsible person	0	18	18	12.33	0	0
8.1.D current and available at appropriate locations	1	13	14	9.59	1	0
8.1.E adequately protected from unauthorised modification, deletion and publication	1	13	14	9.59	2	0
8.1.F removed from circulation if it is obsolete, or clearly marked that it is not to be used.	6	30	36	24.66	3	0
Note Obsolete SMS documents should be retained in archived form, that is, suitably identified and protected against damage, deterioration, or loss.	0	4	4	2.74	0	0
Totals	10	136	146	100	15	19

Table A8: Conformance with Section 9: Continual Improvement						
	Major NC	Minor NC	Total NC	% Total NC	Obs	OFI
9 Continual Improvement	0	2	2	0.56	3	0
9.1 Process	0	0	0	0.00	1	3
9.1.1 The operator must develop, implement and maintain a process to ensure continual improvement of the SMS and safety outcomes.	5	22	27	7.56	5	0
9.1.2 This process should be conducted through internal reviews of adventure activities, reviews of incidents, and internal review of the SMS.	0	4	4	1.12	22	0
9.1.3 Where available, collated data and information from the adventure and outdoor sector must be considered.	0	33	33	9.24	4	1
9.2 Internal review of the SMS	0	12	12	3.36	2	21
9.2.1 The operator must review at least annually the performance of the SMS against the SMS's stated safety goals and objectives.	1	36	37	10.36	3	0
9.2.2 The review should take into account any audit findings, reports from technical experts, and analyses and recommendations from specific reviews, including reviews of incidents.	0	42	42	11.76	22	1
9.3 Internal reviews of adventure activities	0	19	19	5.32	4	14
9.3.1 The operator must conduct scheduled internal reviews of their adventure activities to ensure compliance with this standard. In addition, the operator must review their adventure activities when prompted by	1	81	82	22.97	10	0
9.3.1.A audit findings	0	5	5	1.40	1	0
9.3.1.B proposed changes to the adventure activities provided, including the sites used, that may change the hazards or the significance of the hazards	0	3	3	0.84	2	0
9.3.1.C changes to the environment in which the activity is conducted	0	1	1	0.28	1	0
9.3.1.D changes to key staff	0	1	1	0.28	1	0
9.3.1.E incidents and emergencies	0	2	2	0.56	1	0
9.3.1.F changes in legislation, standards, activity safety guidelines, codes of	0	9	9	2.52	1	0

practice or similar information.						
9.3.2 The operator should consider involving technical experts to assist in the review process. The operator must ensure that	0	50	50	14.01	27	0
9.3.2.A the reviews are conducted by people with current competence in the activity	2	14	16	4.48	2	0
9.3.2.B any opportunities for improvement are identified	1	3	4	1.12	1	0
9.3.2.C outcomes are communicated to staff and other relevant parties	0	1	1	0.28	1	0
9.3.2.D any actions resulting from the reviews are implemented.	1	6	7	1.96	2	0
Totals	11	346	357	100	116	40

Survey Data Tables

Table A9: Costs associated with registration of adventure activities (GST exclusive)													
Estimated Money Spent (not including staff time)													
	N/A	Up to \$1k	\$1001-\$2k	\$2001-\$3k	\$3001-\$4k	\$4001-\$5k	\$5001-\$6k	\$6001-\$7k	\$7001-\$8k	\$8001-\$9k	\$9001-\$1k	More than \$10k	N
The Audit	0	3	18	23	30	26	11	7	4	2	7	9	140
Consultants	50	21	20	7	6	4	1	0	1	1	0	0	111
Engineering Reports	74	1	9	5	1	1	0	0	0	1	1	0	93
New Equipment Required	34	22	19	9	6	4	4	0	1	2	4	3	108
Existing Equipment Modified	48	29	8	2	3	3	1	0	0	0	0	4	98
Staff Time	19	22	37	18	6	6	2	3	1	0	0	10	124
Your Time	9	8	21	24	12	16	21	1	5	4	1	8	130

Table A10: Estimated Staff Time Spent on Registration of Adventure Activities														
	None	Less than a day	One day	Two days	Three days	Four days	Five days	Six days	Seven days	More than a Week	Several weeks	About a month	Several months	N
The Audit	4	2	8	13	7	6	8	2	4	28	26	8	20	136
Consultants	36	5	11	9	10	4	5	0	0	7	3	2	2	94
Engineering Reports	63	1	9	3	4	0	0	1	0	1	0	0	0	82
New Equipment Required	37	12	8	7	9	2	6	1	1	3	3	0	0	89
Existing Equipment Modified	41	10	5	7	3	1	3	0	0	6	1	4	0	81
Staff Time	16	4	5	7	9	5	7	1	6	21	19	3	11	114
Your Time	5	0	2	3	2	3	8	1	5	26	24	13	28	120

Table A11: AAO Perception of Audit Quality								
Resolving conformance issues raised in my audits contributed to the safety of our operation.								
Agree Very Strongly	Agree Strongly	Agree	Disagree	Disagree Strongly	Disagree Very Strongly	N/A	Rating Average	Response Count
7	7	50	35	14	15	13	4.03	141
The audit process was worthwhile.								
Agree Very Strongly	Agree Strongly	Agree	Disagree	Disagree Strongly	Disagree Very Strongly	N/A	Rating Average	Response Count
9	17	61	24	11	19	0	3.48	141
I felt the auditor understood our operation.								
Agree Very Strongly	Agree Strongly	Agree	Disagree	Disagree Strongly	Disagree Very Strongly	N/A	Rating Average	Response Count
21	34	53	18	7	8	0	2.86	141
The external technical expert(s) involved were qualified to assess the activities they observed.								
Agree Very Strongly	Agree Strongly	Agree	Disagree	Disagree Strongly	Disagree Very Strongly	N/A	Rating Average	Response Count

33	39	47	11	2	4	5	2.43	141
The audits produced a fair assessment of our safety management systems.								
Agree Very Strongly	Agree Strongly	Agree	Disagree	Disagree Strongly	Disagree Very Strongly	N/A	Rating Average	Response Count
17	39	68	8	4	4	1	2.68	141
It was clear to me why activities were included (or not) in the register.								
Agree Very Strongly	Agree Strongly	Agree	Disagree	Disagree Strongly	Disagree Very Strongly	N/A	Rating Average	Response Count
9	18	50	30	11	21	2	3.57	141
The auditor's approach to sampling activities in my operation made sense.								
Agree Very Strongly	Agree Strongly	Agree	Disagree	Disagree Strongly	Disagree Very Strongly	N/A	Rating Average	Response Count
16	23	69	11	4	7	11	2.88	141
The auditor's approach to sampling the locations in my operation made sense.								
Agree Very Strongly	Agree Strongly	Agree	Disagree	Disagree Strongly	Disagree Very Strongly	N/A	Rating Average	Response Count
15	19	73	11	2	5	16	2.85	141

AAO Survey Instrument

What this survey is about...

The New Zealand Adventure Activities Certification Scheme has been in operation for about three years and in that time 325 Adventure Activity Operators (that's you) have been audited and successfully registered to provide these experiences to participants in New Zealand.

Worksafe New Zealand has contracted Galloway Recreation Research Ltd (that's me) to conduct a study of the Scheme's performance during that time.

To do that I've reviewed all of the audit reports and other documents submitted to Worksafe NZ, interviewed the certifying audit bodies, and now I would like to ask you some questions about your experience of the Scheme, the safety audit standard, and the audit process.

Two things are important to note here: 1) the information you provide me will remain confidential and you will not be identifiable in any way from my reporting of results and I will not be providing Worksafe with any identifying information, and 2) your participation in this survey is completely voluntary. You may decline to participate if you wish for any reason and it will have no effect on your registration in any way. If you have any questions or concerns about the survey you can contact Dr Shayne Galloway at 021 471 471 or by email at shayne@grr.org.nz. You can also contact Aidan Tansell at 04 896 5649 or by email at Aidan.Tansell@worksafe.govt.nz.

However, this survey is an opportunity to have your say on the Scheme and its effect on your business - the good and the not so flash. This survey will inform a review of the Scheme and your views and experiences are an important part of that review. I have made sure there are lots of opportunities for you to comment on the questions asked so you won't feel boxed in tick boxes that might not reflect your answer. The results of the study will be available once it is completed.

Let's begin...

1. Are you happy to participate in the survey?

Yes, let's do it.

No, I'd rather not.

Section One: First, tell us about your operation.

2. What is your Adventure Activity Registration Number?

3. What is the name of the registered Adventure Activity Operation?

4. What is your position within the organization?

5. What Districts do you offer your registered adventure activities?

All of New Zealand	Lower Hutt City	Tasman District
Ashburton District	Mackenzie District	Taupo District
Auckland City	Manukau City	Tauranga City
Australia	Marlborough District	Thames-Coromandel District
Buller District	Masterton District	Timaru District
Central Otago District	Matamata-Piako District	Upper Hutt City
Christchurch City	Napier City	Waikato District
Dunedin City	New Plymouth District	Waimakariri District
Far North District	North Shore City	Waipa District
Franklin District	Otorohanga District	Waitakere City
Fjordland	Palmerston North City	Waitaki District
Gisbourne District	Papakura District	Waitomo District
Gore District	Porirua City	Wanganui District
Grey District	Queenstown-Lakes District	Wellington City
Hamilton City	Rangitikei District	Western Bay of Plenty District
Hastings District	Rodney District	Westland District
Hauraki District	Rotorua District	Whakatane District
Horowhenua District	Ruapehu District	Whanganui District
Hurunui District	South Taranaki District	Whangarei District
Invercargill City	South Wairarapa District	
Kaikoura District	Southland District	
Kapiti Coast District		

6. What adventure activities are your organisation registered to operate in New Zealand? (NOTE: Operations indicate the activity, not the method of transport so Heli-skiing would be Backcountry Skiing.)

Abseiling	Challenge	Diving - Free
Alpine Hiking	Course/Highwire/Zipline	Diving - Recreational
Avalanche Education	(2-3 meters in height)	SCUBA
Backcountry Skiing	Challenge	Diving - Snorkeling
Backcountry	Course/Highwire/Zipline	Diving - Technical
Snowboarding	(greater than 3 meters in height)	SCUBA
Bungy	Cliff Jumping	Freedom Rental
Bush Travel	Climbing - Ice	Glacier Travel
Canoeing - Open water	Climbing - Rock	Guided Walk
Canoeing - White water	Climbing - Structure	High Angle Rescue
Canyoning	Coasteering	Inflatable Ball Rolling
Caving		Kayak - Open water

Kayaking - White water
Kite Buggy/Landboard
Kite Surfing
Kiting - Snow
Mountain Biking
Mountaineering
Off-Road Driving
Other (please specify)
Quad Biking

River Rescue Courses
Sailing
Sea Kayaking
Shooting Sports
Sled Dog Touring
Snow Activities (snow
shelter, snow shoe, etc.)
Stand Up Paddleboarding
(Open or swift water)

Swift Water - Inflatable
or Board
Swift Water - Open Boat
Swimming - Open or
Swift Water
Trail Biking
Via Ferrata
Viaduct Traverse
Volcano Travel

7. If you offer adventure activities that are not included in the register, what are they?

8. Please describe the seasonality and staffing of your operation.

Full time staff; Part time staff; Participants

In operation; All year Spring Summer Autumn Winter; Other (please specify)

9. Please indicate any ancillary services your operation uses for registered activities. Air Transport

Land Transport; Water Transport; Catering; Other (please specify)

Section Two: Tell us about your experience with the Safety Audit Standard...

10. Please indicate the costs associated with registration of your activities in these categories (GST exclusive):

Estimated Money Spent (not including staff time)

Estimated Staff Time Spent

The Audit; Consultants; Engineering Reports; New Equipment Required; Existing Equipment Modified; Staff Time; Your Time; Other (please specify)

11. Please describe the value you feel you have gained from the Safety Audit Standard:

Participant Safety

Staff Safety

Your overall confidence in the SMS

Supplier confidence in your operation's safety

Safety management system (SMS) requirements; Leadership and management; Hazard Management; Standard operating procedures (SOPs); Emergency preparedness and response plans; Incident management; Document control; Continual improvement' Other (please specify)

12. Resolving conformance issues raised in my audits contributed to the safety of our operation

Agree; Very Strongly Agree; Strongly Agree; Disagree; Strongly Disagree; Very Strongly Disagree; N/A

13. The audit process was worthwhile.

Agree; Very Strongly Agree; Strongly Agree; Disagree; Strongly Disagree; Very Strongly Disagree; N/A

14.I felt the auditor understood our operation. Agree Very Strongly Agree Strongly Agree

Agree; Very Strongly Agree; Strongly Agree; Disagree; Strongly Disagree; Very Strongly Disagree; N/A

15.The external technical expert(s) involved were qualified to assess the activities they observed.

Agree; Very Strongly Agree; Strongly Agree; Disagree; Strongly Disagree; Very Strongly Disagree; N/A

16.The audits produced a fair assessment of our safety management systems.

Agree; Very Strongly Agree; Strongly Agree; Disagree; Strongly Disagree; Very Strongly Disagree; N/A

17.It was clear to me why activities were included (or not) in the register.

Agree; Very Strongly Agree; Strongly Agree; Disagree; Strongly Disagree; Very Strongly Disagree; N/A

18.The auditor's approach to sampling activities in my operation made sense.

Agree; Very Strongly Agree; Strongly Agree; Disagree; Strongly Disagree; Very Strongly Disagree; N/A

19.The auditor's approach to sampling the locations in my operation made sense.

Agree; Very Strongly Agree; Strongly Agree; Disagree; Strongly Disagree; Very Strongly Disagree; N/A Disagree Very

20.Have you engaged in development of your operation beyond the Safety Audit Standard?

Yes; No; If so, please indicate how:

ACC; Qualmark; Building Code; ISO Standards; Other industry standards; If not listed, please tell us which industry standard you used. (please specify)

21.Have you noticed any benefits from registration of your operation with other adventure activity providers?

Yes; No; N/A; Please comment on any benefits you have noticed.

22. Have you noticed any benefits from registration of your operation with inbound agents? Inbound agents could be anyone who sends business your way.

Yes; No; N/A; Please comment on any benefits you have noticed.

23. Have you noticed any benefits from registration of your operation in terms of customer confidence?

Yes; No; N/A; Please comment on any benefits you have noticed.

24. Have you noticed any benefits from registration of your operation in terms of staff confidence?

Yes; No; N/A; Please comment on any benefits you have noticed.

25. Have you noticed any benefits from registration of your operation in terms of sector image?

Yes; No; N/A; Please comment on any benefits you have noticed.

26. Please rate the auditor who provided your most recent audit on these categories:

Professionalism Fairness; Knowledge of the audit standard; Knowledge of the activity you provide; Understanding of the adventure activity sector

Very good; Good; Fair; Poor; Very Poor; Are there any other comments you would like to make regarding your most recent auditor?

27. Did the technical expert(s) involved in your audit help resolve conformance issues while onsite or at any time?

Yes; No; If yes, please describe how this was done.

28. How satisfied were you with the support made available on the Support Adventure website?

Very satisfied; Satisfied; Neither Dissatisfied; Very dissatisfied; Please comment on your response.

29. How satisfied were you with the Activity Safety Guidelines?

Very satisfied; Satisfied; Neither Dissatisfied; Very dissatisfied; Please comment on your response.

30.What Activity Safety Guidelines do you think should be developed next?

First; Second; Third

31.If you chose to use a consultant:

How did you choose the consultant you used?

What did you use them for?

Were you satisfied with their contribution?

32.The audits we've had have been consistent in their:

Quality Duration; Scope; Cost; Outcome; Professionalism

Agree Very Strongly; Agree Strongly; Agree; Disagree; Strongly Disagree; Very Strongly Disagree

33.If you could change one thing about the Scheme what would it be and how would you change it? (Open Ended)

34.Please indicate your level of agreement with the following statement: On balance, the benefits gained from compliance have outweighed the costs of compliance

Agree Very Strongly; Agree Strongly; Agree; Disagree; Strongly Disagree; Very Strongly Disagree

35.Tell us why you decided not to participate. It's important that we can account for the reasons why Adventure Activity Operators chose not to participate in the survey. This will only take a second... Select the response that best describes why you chose not to participate in the survey.

I don't have the time; It's not important to me; It's not my responsibility; I'm not a registered adventure operator; I just can't be bothered; Other (please specify)

Benefits of compliance outweigh the costs

36.You agreed that the benefits of compliance have outweighed the costs. Please tell us briefly why you have this view. (Open Ended)

2016 Adventure Activity Operator Survey

Costs of compliance outweigh the benefits

37.You disagreed that the benefits of compliance have outweighed the costs. Please tell us briefly why you have this view. (Open Ended)

2016 Adventure Activity Operator Survey

Thank you for your time! We appreciate the time and effort required to complete this survey. Your experience with the Adventure Activity Registration Scheme is important and your input provides valuable insight into how it's going and how it might be improved. If you have comments about the survey or wish to share ideas or experiences beyond what's covered by the survey, please feel free to contact me at: shayne@grr.org.nz.

Many Thanks,

galloway recreation research limited

Shayne Galloway

Galloway Recreation Research Ltd.

CAB Interview Script

Thank you for agreeing to speak with me about the NZAACS, I appreciate the time you're making for this interview. As you know I am under contract with Worksafe NZ for this project and that entails a commitment to the confidentiality of those who provide me with information.

1. I would like to get a sense of your observations of the Scheme over the past 3 years. In your experience, how is it going? Areas of progress? Any particular challenges?
2. How do you determine how much time is required for an audit (Variations to Audit Duration Table)?
3. How do you determine the cost of an audit? In terms of your fees, are these assessed in the same way for other sectors you audit?
4. With regard to audit scope, how do you determine this for an AAO?
5. What are your thoughts on the performance and/or benefits of cross-activity and multi-site audits?
6. Could you describe for me the audit methodology you use? (Is this the same or different from other industries you audit, if different how so?)
7. How are auditors and TEs trained on these (also Qualifications) – particularly regarding auditing vs consulting?
8. For your work, how do you define the difference between a major non-conformance and a minor non-conformance? Similarly, how do you define the difference between a non-conformance and an observation or opportunity for improvement?
9. What other observations have you made about the Scheme or the standard that you would like to share?