

Outdoor education fatalities in Australia 1960-2002.

Part 1: Summary of incidents and introduction to fatality analysis

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Abstract

This paper presents a summary of outdoor education fatalities in Australia between 1960 and 2002. It discusses the importance of incident analysis in fatality prevention. Major sources of systematic bias in reviewing cases are discussed, and a distinction made between risk management, safety management, and fatality prevention. The paper is the first in a series presenting the findings of a research project that sought to examine all available information from public records, mainly newspaper reports and coronial documents, on outdoor education fatalities since 1960, with a view to (a) ensuring cases for study were more consistently available to teachers and teacher educators and (b) examining past incidents for common elements or patterns.

Introduction

Accidental death is a major contributor to what is a low death rate for young people in Australia (Australian Bureau of Statistics, 2000). As would be expected, deaths from accidents and other causes have occurred on camps and excursions organised by schools or youth groups. This study, based on publicly available information, presents a compilation of fatalities occurring on school and youth group camps and excursions since 1960. Most involve deaths from external causes. With hindsight, many were preventable. I hope that this research will help ensure that, as a mother who lost her 13 year old Daughter at Lal Lal Falls put it, "something positive" (Smith, 1990, p.3) comes from these tragedies.

The research, of which this article is part, has two main threads.

- (1) To provide a compilation of fatalities that will assist outdoor teachers, leaders, guides, and those who train outdoor educators, to develop case studies from newspaper reports and inquests. No such compilation previously existed. I have provided sufficient information for readers to

locate newspaper articles relating to most incidents. Usually newspaper reports will contain the names and dates necessary to request the findings of an inquest, if one was held. Inquest reports are usually public documents, although access is not automatic, because the public interest must be weighed against the privacy of those named in the reports.

- (2) To consider what can be learned by taking an overview of many fatalities, and the contexts in which they occurred, over four decades. There are lessons to be learned from the set of fatalities. 'Freak' events in the life or career or any one individual or institution may be seen to fit patterns only evident from this wider perspective. I will examine some of these patterns in more detail in later articles, but some are clearly evident in the summary of incidents presented here.

The role of studying incidents in safety management

Reviewing and circulating incident reports, including informal 'story-telling', is an essential

part of safety management. I am not aware of any safety-oriented culture that does not include cautionary tales or example-based safety analyses.

Reviewing cases is essential because experience and common sense alone will not prevent all fatalities:

- (1) fatalities (on camps and excursions) are rare. Most of those who conduct camps or excursions, even if they do so full-time, will never experience a fatality under their care.
- (2) Lessons accumulated from 'near misses' or non-fatal injuries are essential to safe practice, but are not sufficient - *not all* fatalities are preceded by, or associated with, warnings in the form of recognisable near-misses (cf Brackenreg, 1997).
- (3) Lessons accumulated from everyday experience of outdoor education are essential to program quality. But fatalities can arise from specific circumstances that may be absent in otherwise poorly-run programs, and present in otherwise exemplary programs. Recognising these circumstances is not a matter of common sense.

Fatality prevention requires a specific effort to enquire *beyond* the experience of individuals and the record of individual programs to learn from fatalities in programs sharing some common elements. The detail and specificity to be found in incident reports provide vicarious salutary experiences, without which certain fatality prevention measures could seem unnecessary. For those whose job it is to convince others of the necessity of specific precautions, examples of incidents may be persuasive where assertion is not.

It was not the intention of this research to examine the aftermath of any tragedy. But I will note that many of these tragedies were attended by a sense of disbelief, and sometimes by specific claims that 'nothing like this has happened before'. The fact that a program has been running for years without incident is not proof that fatality prevention strategies are adequate. Outdoor education fatalities *nearly always* occur in circumstances

where those responsible can truthfully say 'nothing like this has happened before in this program'. Such reactions are understandable; but it must also be understood that the average probability of accidental death on any given day for a 5 to 14 year old in Australia is around 1 in 5 000 000¹ (around 8 times less than the risk for 15-24 year olds). Even if it was accepted that participation in outdoor education increased that average risk (say) tenfold – something I would regard as unacceptable – only programs with experience of *hundreds of thousands* of participant-days could legitimately point to a record of zero fatalities as evidence of good prevention strategies. It is conceivable that teachers could run dozens of camps in circumstances that make a fatality 1000 times more likely than in everyday life, without necessarily experiencing a fatality.

I will elaborate on some of the circumstances that are implicated in these tragedies in other papers, but even the limited detail provided below should allow readers to identify some patterns. At the risk of labouring the point, many of these circumstances – certain activities or supervision arrangements, certain locations or environments – 99.9% of the time will *not* result in a fatality. As Perrow (1999) points out, cutting corners works most of the time. Studying cases may help to offset complacency entrenched by experience of successful corner cutting.

Risk management, safety management, and preventing fatalities

It is helpful to distinguish fatality prevention from two related areas: safety management and risk management.

Safety management combines fatality prevention with prevention of relatively common *non-life-threatening* injuries. Fatality prevention warrants specific consideration because a fatality is the most serious incident that can occur, and, as Hogan (2002) observes, consideration of rare but serious incidents can be overlooked by planners concentrating on a multitude of less serious possibilities.

¹ Death rate per year is 14 per 100 000 in this age group, half due to accidents (Trewin, 2001). Half of 14 divided by 365 gives around 2 in 10 000 000.

Existing safety guidelines may contain the distilled experience of many fatal incidents. Brisbane Grammar introduced swimming lessons after the "Quetta" sank in Torres Strait in 1890, drowning passengers connected with both (girls and boys) schools. In 1912 two Brisbane Grammar boys drowned in the surf at Southport trying to rescue two Brisbane Girls Grammar girls, following which life-saving was introduced at both schools (P. Barnett, pers. com.). However it cannot be assumed that all that could be learned from previous incidents has been incorporated into guidelines or practice, or that insights from incidents have been widely disseminated. Although I did not systematically examine what lessons had been learned by whom from each tragedy, it is clear that the salutary effects of fatalities are unevenly and inconsistently distributed. The impact of a fatality may be relatively local and may diminish over time.

Institutional practices or guidelines may have been based on mistaken conclusions or lessons learned imperfectly (see (Perrow, 1999)). Moreover, institutional responses may have been shaped by considerations other than fatality prevention, such as risk management.

Risk management, originally developed as a means of limiting litigation (Vincent, 2001), bundles safety management with other considerations, such as loss of reputation or financial loss. Although one way to limit litigation is to prevent accidents, another is to become skilful at avoiding liability. Risk management, in other words, may only be about acting in the best interests of those in an institution's care while it is in the institution's interests to do so. It *can* mean actively working against the interests of an injured person, for example in attempting to deny them compensation for loss. Moreover, liability protection can sometimes work *against* fatality prevention. For example, it was reported that the beach in the Sandbar Beach 1998 incident was unsigned because the local council believed that a sign warning of the known dangers would have made it liable for any injuries. Thus, 'risk management' may confuse some safety issues: 'keeping young people safe' may be muddled with 'covering legal bases' and 'taking responsibility' may be confused with

'avoiding potential liability'. Hogan (2002) provides some examples of such confusion.

Critical comments by the coroner investigating the Yarrunga Ck. (1999) incident, that staff involved did not understand risk (read 'safety') management could be applied to many programs, if safety discourse steeped in ersatz legal jargon, and which treats insurance companies as a source of wisdom and ethical guidance, is anything to go by. Studying incident reports may help outdoor education teachers ensure they have not 'lost the plot' on safety management.

Accepting the past, avoiding fatalism

The focus of this research was on preventing future fatalities. The hindsight-based analyses it developed should not be interpreted as implying anything about whether or not any individual or institution could have or should have prevented a particular fatality in the past. All of the teachers, leaders, and organisers involved in these incidents can be counted among the victims, and many have been found to be blameless. I have not clearly identified all such cases because to do so would imply that others had been allocated some blame by an inquest or other court action, which would contribute little, if anything to this research, and possible cause unnecessary distress.

Only a few of the cases discussed here involved recklessness or criminal intent. Many involved human error, but human fallibility is unavoidable. With hindsight some fatalities may seem preventable, but what is foreseeable now may not have been reasonably foreseeable at the time of the accident. It may be tempting to conclude that an incident *should* have been prevented, but it is hard to know that. No re-telling of an incident can reconstruct what are often complex, distracting, or confusing circumstances; neither is it possible to reliably reconstruct the mental state or mental processes of those involved. Reason (2001) points out that the psychology of human error remains relatively poorly understood.

I have not included names of victims, nor of any individuals involved with any of these incidents. However, anyone developing case studies to inform their own practice, or for teaching purposes, will soon encounter

names and personal details. It is incumbent on all who use these incidents as 'cases' to recognise the trauma that each incident has already occasioned, and to be mindful of the potential distress that uncovering the details of incidents may trigger.

Fatality analysis must, like Janus, the Roman god of the past and future, have two faces, one looking back with fair-mindedness, one looking ahead with vigilance.

The study

This study aimed to examine outdoor education fatalities in Australia since 1960. I focussed primarily on school outdoor education, and have included some incidents that many teachers would regard as school excursions rather than outdoor education. I included incidents involving youth groups, such as scouts, to the extent of my knowledge, but I did not resolutely seek out youth group incidents.

I excluded outdoor recreation fatalities not associated with an organised group, fatalities involving organizations that were not youth oriented, and fatalities outside Australia. Outdoor recreation and outdoor education overlap, of course, but outdoor education is distinctive because of its focus on youth, its institutional relationships and constraints, and because it has different aims (Horwood & Raffan, 1988). These differences warrant a specific study of fatalities in outdoor education.

Fatality prevention in outdoor education has considerable overlap with areas such as road safety, drowning prevention, school safety, and outdoor recreation safety. This study emphasises aspects of fatality prevention peculiar to outdoor education.

Limitations

Scope and omissions

I cannot claim this study was exhaustive. The fact that I more or less stumbled onto some incidents suggests I failed to stumble onto others. My search for information was limited by time and money. I searched newspaper archives electronically where such archives existed (mostly 1990 or later), but may have missed some incidents because of my choice

of search terms. I searched newspapers on microfilm only to find particular incidents I already had some knowledge of, such as the years in which they occurred; a more comprehensive search of 30 years of unindexed newspaper microfilms would be a massive undertaking.

I learned more about some incidents than others. Access to information is usually a problem for accident research (Perrow, 1999). Where there was no inquest and no newspaper report, very little information may have entered the public domain. I have included only basic information about incidents known in outdoor education circles for which I could not locate publicly available documents.

Certain conceivable incidents are absent from this study because I didn't find any. There are no 'lost in the bush' incidents, none from bush-fires, none associated with heat, hunger or thirst in arid areas. I found a number of instances of students attacking and killing animals (not included), but I found no fatal animal attacks or bites on land or sea. All of these are possible, and should be regarded as such.

It should be borne in mind that the cases presented here were selected using necessarily loose criteria (outdoor education is not a precise term), and that I have presented no data on participation rates. This study does not, therefore, provide a basis for drawing conclusions about fatality rates, although the proportion of deaths by drowning, gravity, and motor vehicles is probably about right. However, while it may be tempting to observe that more deaths seem have occurred from drowning than from falls, it is more useful to observe that there is a risk of drowning around water and a separate and independent risk of falls and falling rocks around cliffs.

Similarly, in the absence of participation rates, little can be concluded about different numbers of fatalities in different states, or in different decades. It is more useful to observe that some risks are geographic — for example hypothermia is a risk in the waters and high country of the south eastern states.

There will be future fatalities — misfortune and human fallibility will see to that — and

those working in the field must stand ready to provide compassion and understanding for those involved or affected. But I contend, as a researcher, outdoor educator, and parent, that fatality *prevention* must be approached from the standpoint that there is no acceptable rate of accidental deaths in outdoor education.

Sources

I sought information about the existence of incidents widely, short of contacting relatives of the deceased directly or indirectly. I approached teachers or supervisors close to an incident only as a last resort, and only if I had reason to think that my request for a name and date would cause no distress (for example if I knew that a person had given a presentation about the incident). In each case I requested assistance in locating information already in the public domain. The sources I used once I knew of the existence of an incident were mainly newspaper reports and documents from coroners or inquests.

There were important differences between press and coronial sources. Newspaper reports tended to present what the reporter had learned as a 'story', sometimes using non-eye witness accounts, for example a rescuer who has spoken to those present. Newspaper reports may contain information not in inquests, for example personal information about victims, or reactions of parents and others. In a small number of cases (for example Growling Swallet 1990, Thomson River 1976) newspapers took an 'investigative' approach to an incident. Multiple fatalities (for example Lake Hume 1963, Lake Alexandrina 1987) or clusters of fatalities (for example Morley 2000, Bayswater 2000) received more press attention, which sometimes included canvassing various interpretations of the incident. Most of the latter reported views emerging from the community rather than editorialised, although the effect of usurping the coroner might be the same. The Hobart Mercury's different treatments of the Cradle Mountain 1964, Cradle Mountain 1965, and Cradle Mountain 1971 incidents illustrates how newspapers can choose particular 'lines' on incidents which were in many ways similar. In the first two instances, reports emphasised good planning, heroism and bad luck. In the third, perhaps partly influenced by the fact the group were 'mainlanders' one headline

referred to a lack of 'nous'. I did not seek newspaper reports of most inquests, but it is clear that some inquests attracted more press attention than others.

Information from inquests or coroners came in several forms. I have indicated where there has been no inquest. Usually this fact has been communicated to me by a coroner's office, but in some cases I have relied on personal communication from individuals close to an incident. Some 'no inquest' findings include a summary of the incident prepared by the coroner, or a police report. Some inquests have been transcribed. Transcriptions provide the most detailed record. Some inquest files, especially older ones, contain depositions from witnesses and the police, with comments added in response to questions asked at the inquest. These also provide a fairly detailed record, although they give less information about the tone and emphasis of the proceedings. In a number of cases I saw only the coroner's findings. These vary in the amount of detail they include, and are, of course, one step removed from the actual evidence presented at the inquest. Some coronial investigations are relatively brief, especially if the facts are simple and uncontested. Others are more extensive. My impression is that to some extent coroners have responded to the community on this. If various parties are clamouring for an investigation, or making assertions about an incident, then the coroner will try to ensure that any questions are aired and answered. Inquests help the community to deal with a death; my impression is that coroners often very skilfully balance a responsibility to uncover the facts in the public interest with a process that helps all of those involved in a death to come to terms with their loss.

Systematic errors in reviewing case studies

Cases are open to interpretation. Two individuals may disagree on the extent to which a particular event – say a tree falling on a tent – was preventable. Such differences may be distributed randomly, and would therefore be neutral with respect to any overall understanding of fatality prevention. There are, however, potential *systematic* sources of error in interpreting case studies.

Hindsight bias

Hindsight bias is a well-documented psychological phenomenon (Hoffrage, Hertwig, & Gigerenzer, 2000; Roese & Maniar, 1997; Williams, Lees-Haley, & Brown, 1993). Knowing how things turn out provides a framework for making distinctions and seeing connections that are difficult to unlearn or suspend. Hindsight bias is usually considered in the context of a subject 'rewriting the history' of what *they* thought before an event, once they know the outcome. Arguably, this 'I knew that was going to happen' phenomenon is a by-product of a necessary ability to learn from experience (Lundberg & Svenson, 2000). Surprisingly perhaps, analysis of an incident, or consideration of counter-factuals ('if onlys') reinforce hindsight bias.

Hindsight bias encourages belief that 'I would have seen that coming', or belief that 'I knew that was going to happen'. It can torment those involved in incidents ('I should have foreseen that'). An accident which nobody foresaw becomes, with hindsight, plainly foreseeable. Hindsight bias can tempt unfair judgements about those involved in accidents. It may breed complacency ('there is no way I would have missed that'). Hindsight bias is insidious – those making judgements swayed by hindsight may be quite certain that they are not influenced by hindsight.

Attribution error – focussing on the person not the situation

At one time social psychology promised to provide reliable predictive tests of individual behaviour, based on measured character attributes (I could be relied on to help the needy, because of my measurable moral fibre. You could be expected to pocket some change from the till because of your measured dishonesty). What decades of research revealed was something different; *circumstances*, not character attributes, provide the best predictors of individual behaviour in different or novel circumstances (Ross & Nisbett, 1991). But individuals tend not to believe this, except perhaps when explaining their own behaviour ('I am not rude – I am just late for an important meeting') (Kagan, 1998). This is the *fundamental attribution error*: a widely observed and persistent belief that behaviour in one set of circumstances can be predicted based on

character attributes inferred from another set of circumstances ('I know Mary. She will be great for that job.'). Attribution error is hard on those involved in accidents; it tempts unfair inferences about the personal and professional traits of those involved, and like hindsight may tempt complacency ('of course I would not behave in such a way – I am careful/observant/conscientious').

Associated with the fundamental attribution error is what seems to be a widespread tendency to emphasise actors rather than circumstances. This includes cultural preferences for 'character-driven' drama, and ideological beliefs about individual responsibility (for example manifest in reluctance to believe that given the right circumstances, most people would have acquiesced to Nazism (Ross & Nisbett, 1991). To limit the possibility of attribution error, it is important to avoid inferences about the personal or professional characteristics of those involved in particular incidents, unless there is multiple evidence based on more than one instance. It is also important to pay attention to contextual information, including consideration of whether one has access to sufficient contextual information to form an opinion.

Attribution error probably biases accident analysis towards human error and away from situational factors. The circumstances of an incident include the institutional and managerial contexts in which it occurs. Although there can be a tendency in accident analysis to focus on operator error (Perrow, 1999), errors can and do occur at all levels including management and accreditation systems. Moreover, while social psychology has largely failed to identify personal characteristics which can be used to predict behaviour, certain situational factors are strongly predictive. Examples include being in a hurry, and the behaviour of others, especially peers.

Confirmation bias

In at least three of the drowning cases discussed here (Anglesea 1979; Eppalock 1981; Hampton Pool 2000) other group members who saw the deceased in trouble thought the person was 'mucking around' or joking. That is, the other participants were (understandably) not easily able to shift from a

'playing' frame to a 'life-is-threatened' frame. Confirmation bias arises from the relative robustness of the frames which help individuals make sense of what is going on – frames help form a mindset around which information or observations are arranged and interpreted. Perrow (1999) describes an instance of a ship suddenly turning from a non-collision course to a collision-course because the master had formed a 'mental model' that the other ship was travelling in the same direction as his ship (it was not).

Reason (2001, p.13) contends that confirmation bias is the most universal systematic bias in analysing accidents: 'We "pattern match" a possible cause to the available signs and symptoms and then seek out only that evidence that supports this particular hunch, ignoring or rationalising away contradictory facts'. Confirmation bias affects not only how those involved in an incident understand it at the time, but may also influence subsequent analysis. Confirmation bias may be reduced by (a) seeking information on fatalities from the original public sources, rather than relying on brief summaries or pre-digested conclusions or recommendations, and (b) paying careful attention to the explicit or tacit theories which shape how individuals interpret and explain incidents.

Representational limits – the map is not the territory

It is important to remember that all accounts are necessarily partial, moulded by particular interpretations or worldviews, and potentially influenced by particular interests (for example self-justification, or protection of the good name of a school).

- (1) Accounts will be limited according to what those involved understood at the time. Important details may have been observed by no one. Those involved may not have been conscious of their own mental processes. Reason (2001, p.18) points out that 'inattention, distraction, preoccupation, forgetting, fatigue, and stress are probably the last and least manageable links in the chain of events leading to an error'. Circumstantial details may not have consciously registered with anyone

present at the time (Ross & Nisbet 1991).

- (2) Human memory is fallible. Schacter (2001) classifies memory limitation: as: transience (fading over time) absent-mindedness (not remembering actions performed automatically) blocking (inability to recall known information); misattribution (confusing sources, for example what you have read or heard with what you saw) suggestibility (memories influenced by the context of remembering, for example by the way a question is put) bias (some sources of bias are discussed above; there are others) and persistence (inability to *forget* troubling images or memories). These limitations are inherent in human memory. Misattribution, suggestibility and bias are particularly important because they produce clear, sincere, but false memories.
- (3) Some accounts may be untruthful.
- (4) The forms in which evidence appears (written depositions; transcripts; photographs; news reports; collections of physical evidence) have their own grammar and conventions, conveying some aspects of reality better than others.

False comparisons / overgeneralisation / oversimplification

Although one purpose of this research was to identify patterns and common elements across the set of fatalities, every accident is unique. What constitutes a condition for an increased fatality risk in one geographical, organisational, or institutional context may not in another.

It is important not to confuse the circumstances of a fatality with the cause of the fatality. In some deep sense each tragedy was *caused* by the convergence of many factors, which, considered individually, would not be sufficient to cause a fatality. At the same time, removing any one of a number of circumstantial factors may have been sufficient to prevent the tragedy. In seeking to develop insights which apply equally to scouting groups and school groups, or in Queensland and Victoria, one risks losing sight of the uniqueness of each situation.

The language of blame can lead to oversimplification, and complacency. Perrow (1999) points out that the 'cause' of accidents is often identified without sufficient study of circumstances in which the nominated cause was present but there was no accident (this is not a reference to the causes of death, such as drowning or head injury, determined at autopsy, but to the events which lead to the death). Causes are *attributed* to accidents. For example, this study contains four instances of teenage boys, not directly supervised (or apparently not, in two cases), deciding to cross a river (Crooked River 1978, Shoalhaven River 1990, Forth River 1998, Yarrunga Creek 1999). It is possible to consider whether each of these fatalities was caused by the supervision arrangements, by the river conditions (dam releases or heavy rain), by the decision to cross the river, or by something else. In most cases there were dozens of independent 'if only' factors that would have prevented the death. I want to suggest that while there may be psychological, social, or legal imperatives to resolve these factors and nominate a 'cause', one can better *understand* these tragedies if 'causation' is largely avoided - it may be sufficient to identify the set of conditions which contributed to each fatality.

Summary of fatalities

The tables summarise the fatalities identified. I have named each incident for ease of reference.

I have indicated sources as a guide to the level of detail I had access to. The comments above about sources of information should be taken as qualifying the discussion in this study. I have not listed every newspaper report I had access to. I made no attempt to find every newspaper reference, because reporting of some incidents continued for days, often in several newspapers. Where an incident received national coverage there may be dozens of articles in different editions of various newspapers. In some cases, so far as I could tell, an incident was reported in only one newspaper, sometimes as part of a report on something else. Rather than provide a bibliography that would have run for pages and still have been incomplete, I have provided a reference for one article from a major newspaper for each incident (except

where I did not use newspaper reports). I have tried to select comprehensive articles, but in some cases my choice was somewhat arbitrary, and I advise checking for other reports. Those compiling case studies will find some articles easier to access than others according to the holdings in their local library, in which case the most useful detail will be the dates I have provided. Articles post 1990 can often be obtained electronically from newspaper websites for a small fee.

I have not provided inquest details, nor referenced specific inquest documents in the text. Some inquest reports contain dozens of different documents with different authors (mainly depositions). To refer to each specifically would not only produce a bibliography of unpublishable length, but would also entail naming individuals and in the process unnecessarily intrude on privacy.

Incidents are listed in sufficient detail to identify each incident unambiguously. I have grouped them according to the immediate (medical) cause of death and loosely according to environmental circumstances.

I have not identified any individuals. I have named the institution associated with each fatality. It is the institutional involvement that makes the details of these fatalities relevant to this study. The nature of the institutional involvement varies - in some cases an incident arose from an informal, or non-official activity. All of the named institutions can be regarded as having suffered an incident, but no inference should be drawn as to whether or not an institution contributed to a fatality. In many cases a coroner has specifically found that the institution did not contribute to the death in question.

Reading incident reports

The descriptions provided here are necessarily brief. I recommend caution in attempting to conclude too much solely on the basis of the descriptions provided below. I will provide more detailed discussion in subsequent papers.

However I will make some overall observations, based on my study of all of these incidents.

There is an element of misfortune in nearly all of these incidents. Even where equipment was clearly faulty, supervision inadequate, or expertise lacking, a fatality was by no means inevitable. Taking the compassionate face of Janus that looks to the past, one aim in studying incidents should be to *understand* how the situation arose from which a tragedy ensued. Very few of these instances involve glaring errors or gross negligence. On the contrary, it should be understood just how ordinary the circumstances must have seemed, in many cases, prior to the tragedy. I suspect that, had a rock not fallen, the weather not changed, the current not swept someone away, or a supervisor not been distracted, many of these incidents would have been remembered as 'near misses'. 'Errors' that may have tormented bereaved loved ones and teachers for years only became errors in the light of subsequent events. Errors similar to those implicated in many of these tragedies are made all the time, usually without tragic results.

However, very few of these incidents were unpreventable. (Steavenson Falls 1968 is an example of an unpreventable incident, in my opinion). Taking the vigilant face of Janus, even the limited detail provided in the tables should make it plain that fatalities have mostly been associated with specific circumstances. There is little evidence of a *generalised* fatality risk associated with outdoor education. Fatality prevention need not entail 'wrapping

children in cotton wool' nor abandoning the whole notion of taking children into the outdoors.

For reasons discussed earlier, safety management at every level — individual teaching, program planning, accreditation schemes, training and qualifications, guidelines, and institutional approval processes — may have failed to fully comprehend lessons from previous tragedies. Safety planning can be mired in trivial detail, distorted by institutional practicalities, diverted by the requirements of insurance claim managers, confused by optimistic jargon ('best practice', 'quality assurance', 'legally covered') and captured by the promoters of particular training or accreditation schemes. It may be based on theories which have paid insufficient attention to the available empirical evidence from the outdoor education field and the wider literature on safety management. I hope this paper will assist readers improve current beliefs and practices.

In the second paper in this series I will examine the incidents in terms of supervision, first aid, and rescue considerations. In the third paper I will examine motor vehicle related fatalities, non-accidental fatalities, and the environmental circumstances in which fatalities have occurred. In the fourth paper I will discuss broader 'system' considerations that extend beyond the immediate circumstances of any incident.

Incidents studied

Table 1: Drowning - open water

Incident	Deaths	Date	Location	Institution	Brief description	Source	News ref.
Lake Hume 1963	M21 M19 M19 M19 M22 M29* M25*	15/8 1963	Lake Hume (Talgarno Bight) NSW	Outward Bound Victoria	12 participants 2 night canoe trip. 2nd morning. 1 canoe swamped, party beached canoes. Resumed journey, hit by severe squall, water temp 9=C. Boats swamped. Two craft made shore, another's occupants climbed into a tree. Of six remaining in water, one survived after 4 hours in water clinging to a tree. 2 instructors arrived after the capsizes, also perished attempting rescue after assisting 2 in tree. Severe conditions - wind, waves, rain. Cold water drowning.	I (D) News	Herald 16/8/63 p.1
Lake Alexandrina 1987	M40* M12 M36* M16	22/8 1987	Lake Alexandrina SA	Scouts. Willunga Venturers	11 scouts and venturers including 1 leader and 1 other adult, 2 night canoe trip. 2nd day hit by severe squall 1km from land, water temp 10=C. 1 boat swamped, capsized, then others. 2 craft made it to shore, 1 survivor clung to craft for 2 hours before landing, 2 swam/waded to shore. Other 4 drowned. Two survivors raised alarm, others rescued in the night, very cold.	I (C) News News (I) SA Canoe Assn.	Advertiser (Adelaide) 25/8/87 p.1,2
Deaths: *=leader or supervisor Inquests: I(T)=transcript I(D)=depositions I(C)=findings only NI=no inquest held Newspaper reports: of incident=News of inquest=News (I)							

Table 2: Drowning - moving water

Incident	Deaths	Date	Location	Institution	Brief description	Source	News ref.
Stony Creek 1974	F18	19/7 1974	Stony Creek, Mt Feathertop, Vic.	Gordon Institute of Technology	Party of 8, bushwalk, fast flowing water waist deep. Crossing one by one, rope hand rail. 1 lost her footing, held underwater, released rope, swept away, drowned.	I (D) News	Herald 20/7/74 p.1 City ed.
Thomson R. 1976	M16	10/10 1976	Thomson R., (Coopers Ck.), Vic.	Prahran High School	30 students, 6 staff, canoeing with life jackets, activity ceased, 2 escaped supervision to repeat rapid, capsized, no life jackets, 1 drowned	I (D) News	Herald 11/10/76 p.1 Late ed.
Anglesea 1976	M28*	1/11 1976	2km E. of Anglesea R. Vic.	Geelong West Primary School	45 students on beach, 3 in difficulty, 5 staff, 1 drowned while assisting rescue.	I (T) News	Age 2/11/76 p.1
Crooked R. 1978	M15	14/12 1978	Crooked R., Vic.	Melbourne Grammar School	4 14-15 y/o with 3 older boys. 'Boy-leadership' 5 day bushwalk. Rained heavily. river crossing, human chain, 6 swept away, 1 drowned (body found with foot entrapment).	I (D) News State Emergency Service report	Age 16/12/78 p.4
Anglesea 1979	M13	15/6 1979	2km E. of Anglesea R. Vic.	Scouts, Sunshine District	2 leaders, 2 helpers, 30 scouts on beach, several in difficulty, 1 drowned.	I (T) News	Age 26/2/79 p.3
Stokes Bay 1980	F15	23/5 1980	Stokes Bay, Kangaroo Island SA	Quest Tours; Port Broughton Area School	3 students, clothed, wading, signed hazardous beach, swept out to sea. Two rescued, one drowned.	I (C)	
Growling Swallet 1990	F14 F14 F23*	3/7 1990	Growling Swallet cave, Tas.	Taroona High School	3 teachers, 8 students, caving. Crossing thigh-deep creek with 'human chain'. 1 girl slipped, carried away. 2nd girl went to assist. Teacher went to assist both. All 3 drowned. Survivors trapped for 7 hours, leader for 12. Leader later died in fall from hotel, apparent suicide.	I (C) News	Age 20/10/90 p.1,25
Shoalhaven R. 1990	M15	29/10 1990	Shoalhaven R. 700 meters South of Tallowa Dam NSW	Scots College, Sydney	Canoeing, numbers unclear, father/son trip (unclear if teachers were with the group). Foot entrapment under snag while wading or swimming rapid, drowned.	I (C) News	Sydney Morning Herald 30/10/90 p.3
Logan R. 1990	F16	6/11 1990	Logan R., Waterford, Qld.	Loganlea State High School	1 teacher 9 students 5 canoes, first canoe swept against pylon, pinned, student tangled in painter failed to surface drowned.	I (C) News	Courier Mail 7/11/90 p.3
Barrington R. 1995	M19*	6/12 1995	Barrington R. ('the Moppy') NSW	Camden High School	Leading a group of 8, kayak entrapment 5-10 minutes drowned.	News NI	Daily Telegraph 7/12/95 p.3
Conto Springs 1998	M15	30/11 1998	Conto Springs Beach, 25 km S. of Margaret R. WA	Mercy College Koondoola	2 teachers on beach (1 lying down, eyes closed). 25 students swimming. Signed hazardous beach. 1 student caught in rip, drowned.	I (C) News	West Aust. 2/12/98 p.5
Forth R. 1998	M15	7/12 1998	Forth R., Tas.	Launceston Church Grammar School	(3/12/98) Year 9 class, 1+teachers, 2 kayaking instructors. Student (spectator?) attempted to reach rock in river., entrapment in snag. Rescue failed until water flow stopped at dam. Died in hospital.	NI (C) News	Hobart Mercury 5/12/98 p.5
Sandbar Beach 1998	F14 M16 M25*	15/12 1998	Sandbar Beach, Pacific Palms, NSW	a Cabramatta Christian group	Group of 30 at unsigned hazardous beach; 1 participant, 1 counsellor went to aid of participant in trouble; all drowned. Several others rescued.	News	Australian 16/12/98 p.3
Yarrunga Ck 1999	M15	24/10 1999	Tributary of Yarrunga Ck, Kangaroo Valley, NSW	Scots College, Sydney	1 adult (non supervising) 3 students on father/son bushwalk. Older brother (substituting for his father) swept away while attempting to cross flooded creek. Drowned.	I (C) News (I)	Sydney Morning Herald 29/9/01 p.3

Deaths: *=leader or supervisor Inquests: I(T)=transcript I(D)=depositions I(C)=findings only NI=no inquest held Newspaper reports: of incident=News of inquest=News (I)

Table 3: Drowning – dams, lakes, pools

Incident	Deaths	Date	Location	Institution	Brief description	Source	News ref.
Falls Creek 1961	M15	15/7 1961	Falls Creek, Vic.	Trinity Grammar	1 teacher, 27 boys, some skiing some tobogganing for 1 hour. 1 failed to return. Found drowned in vertical concrete pipe. Tobogganed over drop, hit head on pipe, then fell in (3 meters deep, half filled with water).	I (D)	
Moogerah Dam 1976	M17	13/11 1976	Moogerah Dam, Boonah Qld.	Brisbane Grammar	Several boys with teacher canoed to rockface. Student climbing rock face unable to proceed, jumped off sideways to avoid student climbing below, landed in deep, turbulent pool, failed to surface. Rain, flood conditions.	News	Courier-Mail 15/11/76 p.1 Late City ed.
Woorabinda 1980 (?)	M?	1980	Woorabinda Camp, Stirling, SA	Unknown special school	Drowning, details unconfirmed.	pers. com.	None located
Lake Eppalock 1980	M14	17/12 1980	Lake Eppalock, Vic.	Kyneton Secondary College	20 students (approx) swimming in muddy lake, around 200 other students and 30 teachers on shore. End of year activity. No one in particular supervising swimming. 1 student drowned.	I (D)	
Maroon 1981	M?	19/3 1981	Maroon Outdoor Education Centre, Qld.	School unknown	Noticed missing, found drowned. No details discovered on public record.	pers. com. NI	Not reported
Crystal Lake 1990	M11	7/11 1990	Crystal Lake Camp, Macclesfield, SA	Salisbury South East Primary School	Drowned, circumstances unknown. 4 supervisors, 24 (?) swimming in muddy water, absence of 1 noticed at dinner time.	News (I) News	Advertiser 13/4/91 p.10 ed.2
Gaiston 1991	M6	23/4 1991	Crusader Convention Centre, Gaiston, NSW	Birchgrove Community School, Sydney	Non swimmer drowned in 2.5 meters of water.	News	Australian 11/2/99 ed. 2 p.6
Bibra Lake 1994	M14	16/12 1994	Adventure World Bibra Lake WA	Collie Senior High School	Large adventure facility, 3680 patrons including 2836 school children and 269 school supervisors. End of year activity. Approx 350 people in swimming pool, two life guards. Boy dragged from pool by attendants, resuscitation unsuccessful. Took 2 hours to discover which school had lost a student because some had gone home.	I(C) News	West Australian 17/12/1994 p.1
Avon Valley 1997	F15	1/12 1997	"Sappers Crossing" Avon Valley National Park, WA	Duncraig Senior High School	2 teachers, 12 students, overnight bushwalk. A small group swam out of sight of teachers; others joined them. 1 collapsed (early pneumonia) drowned.	I (C) News	West Aust. 3/12/97, p.?
Murgon 2000	M13	21/11 2000	Bjelke-Petersen Dam, near Murgon Qld.	South Burnett Regional Cadet Unit	2 supervisors, 22 cadets, clothed, exercise in weedy, muddy, dam. 1 drowned.	News	Courier Mail 13/12/00 p.5 ed. 1
Morley 2000	M12	6/12 2000	Hampton Senior High School, Morley, WA	West Beechboro Primary School	3 staff, 38 students, 1 found on bottom of pool, (drowned? inquest pending).	News	West Aust. 8/12/00 p.1
Bayswater 2000	M10	11/12 2000	Bayswater Waves Aquatic Centre, WA	Boyare Primary School, Mirrabooka, WA	54 students 1 teacher, 1 substitute teacher, 4 parents at public pool complex. Lifeguards on duty. Weak swimmer drowned in diving pool; no adults watching at the time. Drowned. Coroner found parents not qualified to supervise.	I(C) News	West Aust. 12/12/00 p.6,7
Deaths: * = leader or supervisor Inquests: I(T) = transcript I(D) = depositions I(C) = findings only NI = no inquest held reports: of incident = News of inquest = News (I)							Newspaper

Table 4: Falls

Incident	Deaths	Date	Location	Institution	Brief description	Source	News ref.
Tatachilla 1976	M11	7/7 1976	Tatachilla Camp, McLaren Vale SA	Sacred Heart College Brighton	4 teachers, 65 students at camp (old winery) . One noticed missing (bed check). Found unconscious, died next day, severe head injuries. Extensive police interviews eventually established he fell while using a 1st floor window sill to get from one room to another during unsupervised play.	NI (Police report, coroner's file) News	Advertiser (Adelaide) 9/7/76 p.1
Barkly River 1979	M16	24/2 1979	Lyndon Flat, Barkly River Vic.	Traralgon Technical College Victoria Lourdes College Traralgon	School club o/night bushwalk, 2 teachers, 2 ex-students 9 students 1 student from another school. (Sat.) 2 teachers and 6 students on day walk. In steep gully, camp in sight, 1 student allowed to take a different route alone, failed to reach camp. (Sun.) Search with own resources failed, (Mon.) police found body (dead) below 20m cliff (spinal injuries).	I (D) News State Emergency Service report	Age 27/2/79
Grampians 1979	M15	23/11 1979	Grampians Vic.	Monivae College Hamilton	1 staff, 12 students (cadets) abseiling. Activity ceased due to rain. 1 student climbed unsupervised up 8m unroped to use walkie talkie, large rock fell followed by the student, struck head (4.30 pm) Evacuation began, suspended (condition worsened). Breathing failed, ambulance arrived 6.30pm.	I (D)	
Cathedrals 1983	M15	3/5 1983	Cathedral ranges Vic.	Nunawading High School	3 teachers, 21 students walking as a group along 'Razorback' track. Girl fell 1m, uninjured. Boy fell from same spot 1.5 m. Head injuries (around 3pm). Evacuation began, 6pm, suspended 8pm (breathing failed), died 3.00am on mountain.	I (T) Judgement N... versus O...	Age 16/11/85
Hawkesbury River 1986	M15	10/8 1986	Fisherman's point. Hawkesbury River NSW	Knox Grammar	30 students on orienteering exercise. 1 student stepped on or over a loose rock, fell 1.5 meters, rock landed on top of him. Attended by doctor, died at scene.	NI News	Sydney Morning Herald 11/8/86 p.1
Bungonia 1991	M16	2/11 1991	Bungonia Gorge 40 km E of Goulburn NSW	Sydney City Mission Tallong Wilderness Centre	2 leaders, 4 juvenile offenders, canyoning. 1 fell 75m during lunch break. Local police and homicide detectives investigated as possible suspicious death. Coroner unable to determine what caused the fall.	I (D) News	Daily Telegraph 4/11/91 p.2
Bungonia 1994	M15	14/10 1995	Bungonia area ("Kirrikee") NSW	St Andrews Cathedral School Sydney	2 leaders and senior student, 15 students, 5 day bushwalk. Students leading, not directly supervised, attempted to find a way down a cliff. 1 fell 20m, died at scene.	I (C)	Sydney Morning Herald 15/10/1995 p. 3
Thredbo 2000	M16	8/8 2000	Thredbo NSW	Newcastle High School	60 students attending Dept. Sport and Rec. Winter camp. Student snowboarding on Walkabout run, collided with tree, severe head and spinal injuries, died later.	News	Sydney Morning Herald 10/8/00 p.5
Deaths: *=leader or supervisor Inquests: I(T)=transcript I(D)=depositions I(C)=findings only NI=no inquest held Newspaper reports: of incident=News of inquest=News (I)							

Table 5: Falling objects

Incident	Deaths	Date	Location	Institution	Brief description	Source	News ref.
Steavenson Falls 1968	M19 M18 F15 F13	9/1 1968	Steavenson Falls, Marysville Vic.	Group of seven teenagers	Party of 7 teenagers bushwalking on well-used track on steep slope. Top of Mountain Ash snapped off (no wind) 12m up. Broken section, 1m in diameter, broke on impact and rolled down the hill, killing 4 and injuring 3.	News	Herald 9/1/68 p.1 final ed.
Two Scouts Track 1975	M16 M16	19/9 1975	Towimbuk State Forest, Bunyip Vic.	Scouts	Group of 6 Venturer scouts bushwalking (Armstrong 500 competition). Light wind. Tree (23m 2.2 girth) fell across a tent, killed both occupants.	I (D) News	Sun 22/9/75 p.5
Lal Lal Falls 1990	F12 F13	28/3 1990	Lal Lal Falls Vic.	Mowbray College	15 students, 2 senior students (belaying), 1 teacher 1 aide (top of cliff), rock climbing, top roped. 1 climbing acc. dislodged large rocks which struck 1 student climbing an adjacent climb and a second student waiting below, with about 9 other students. Both died.	I (T) News	Herald Sun 4/10/90 p.1 ed.5
Serpentine Gorge 1990	M16	5/7 1990	Serpentine Gorge NT (died in Adelaide hospital)	Eltham College (V IC)	11 teachers 98 students, visit to Serpentine Gorge. Some climbed gorge walls. 1 dislodged 2 rocks 0.5 metre dia., called warning, student climbing below unable to evade. Rocks struck head, fell 4m. Died next day head injuries, complications.	I (C)	Sunday Age 15/7/90
Mt Edwards 1993	F13	31/3 1993	Mt Edwards near Moogerah Dam, Qld.	Somerset College, Mudgeeraba	2 teachers, 32 students, bushwalk. Victim struck (pelvis area - unconfirmed) by rock dislodged by student higher up. Died at scene, blood loss.	News	Courier-Mail 1/4/93 p.3 ed.4
Cowaramup Bay 1996	F12 M47* M41* M49* F41* F35* M13 F12 F11	27/9 1996	Cowaramup Bay WA	Cowaramup primary school	Group of parents, teachers and children watching an interschool surfing carnival. 10 sheltered under a limestone cliff, landslide (30 tonnes), all but one died.	News	Weekend Australian 28/9/96 p.1 ed.2
Bremmer Bay 1997	F15	16/1 1997	Fisheries Beach, Bremmer Bay WA	Scripture Union	18 participants 2 instructors, abseiling activity on youth camp (deceased joined abseiling but not on camp). 12.30pm large rock fell from above, dislodging other rocks, hit 1 participant (belaying). Died during flight local hospital to Perth (app. 8pm)	I (C) News	West Aust. 17/1/97 p.26
Rowallan 1998	M12	11/9 1998	Rowallan Camp, Riddells Creek, Vic.	Scouts	7 scouts asleep in tents (150 at camp). 3m Stringybark branch fell on tent, 1 killed, 1 injured (broken leg).	News	Sunday Herald Sun 13/9/98 p.3 ed.3
Crosslands Reserve 2001	F15 F15	3/12 2001	Crosslands Reserve, Hornsby Heights NSW	William Clarke College	10 adults, 39 students. Camping, severe storm. 15 m branch fell from 5m onto tent. 2 occupants killed, 2 survived. D of E expedition. Unclear if adults present at the time.	News	Daily telegraph 5/12/01 p.9 ed.1
Carnarvon Gorge 2002	F?*	23/10 2002	Carnarvon Gorge, QLD	Urangan State High School	3 teachers 52 students on music camp. Large eucalyptus tree fell on group swimming. 1 teacher killed, 2 students injured.	News	Age 24/10/02 p.6
Deaths: *=leader or supervisor Inquests: I(T)=transcript I(D)=depositions I(C)=findings only NI=no inquest held reports: of incident=News of inquest=News (I)							Newspaper

Table 6: Hypothermia

Incident	Deaths	Date	Location	Institution	Brief description	Source	News ref.
Cradle Mountain 1964	M15	5/12 1964	Cradle Mountain Lake St Clair NP Tas.	Parklands High School	2 teachers, 3 other adults, 15 students on day trip. Party became separated into several groups. Blizzard conditions. 1 died.	News	Mercury 7/12/64 p.1
Cradle Mountain 1965	M25* M14	20/5 1965	Cradle Mountain Lake St Clair NP Tas.	Riverside High School	16 students, 2 teachers, 1 student teacher on 5 day bushwalk. Caught by blizzard between Waterfall Hut and Waldheim day 5. Student teacher apparently died attempting to carry hypothermic student to safety. Survivors found in several places after boy raised alarm.	News	Mercury 22/5/65 p.1,2
Cradle Mountain 1971	M15	23/11 1971	Cradle Mountain Lake St Clair NP Tas. (Vic. school)	Footscray Institute of Technology	2 teachers, 19 students. 3rd day of bushwalk, reached hut- full. 4pm continued to next hut. Snow on ground, weather deteriorated. Both teachers and 5 students hypothermic, failed to reach hut by dark. During the night hut occupants worked to get all 7 to hut. 1 student died in the hut.	I (C,D) News	Mercury 26/11/71 p.1,2,7,14
Kanangra Walls 1981	M16	1/9 1981	Kanangra Walls area NSW	Newington College	2 students, 1 teacher, 'not official school outing', abseiling. Boy caught on knot. Lightly clad, cold conditions. Unable to self-rescue, companions unable to assist. Incident happened around midday; rescuers informed 8.30pm, reached area 5.30am.	News	Sydney Morning Herald 3/9/81 p.3
Deaths: *=leader or supervisor Inquests: I(T)=transcript I(D)=depositions I(C)=findings only NI=no inquest held reports: of incident=News of inquest=News (I)							Newspaper

Table 7: Fire, lightning

Incident	Deaths	Date	Location	Institution	Brief description	Source	News ref.
Noojee 1984	M12	2/10 1984	Nayook Vic.	Churchill Primary School	25 students, 3 teachers, 2 parents at camp with on-site tents on platforms. Children settled and apparently asleep. 15minutes after checking students teachers alerted to tent on fire. 1 student badly burned, 1 dead. Fire caused by gas lamp placed near tent; conflicting evidence as to who moved the lamp.	I (T) News	Herald 3/10/84 p.3 Final Extra
Sutton 1994	M11	17/11 1994	Sutton, NSW	Kew East Primary (Vic.)	School excursion, 6 students in caravan park cabin. Air con. caught fire 12.30am; 4 escaped, teacher from another school rescued 1 (85% burns). 1 died.	News Inquest request refused	Sunday Age 20/11/95 p.10
Lamington 1992	F12 F12	25/11 1992	Coomera circuit, Lamington NP Qld.	Upper Mount Gravatt State School	41 students, 7 teachers on day walk in rainforest. 5 minute storm 2 girls sheltering under large tree (on rise, near escarpment) killed by lightning which struck tree.	News	Sunday Mail 14/2/93 p.67 ed.2
Deaths: *=leader or supervisor Inquests: I(T)=transcript I(D)=depositions I(C)=findings only NI=no inquest held reports: of incident=News of inquest=News (I)							Newspaper

Table 8: Homicide, suicide

Incident	Deaths	Date	Location	Institution	Brief description	Source	News ref.
Loftia Park 1977	M7	12/1 1977	Loftia Park Camp, SA	Adelaide YMCA	Student died, head injuries, struck several times on head with a brick, in retaliation for the deceased telling other children he had seen his assailant defecate near a car. 12 year old convicted of murder 4/7/77, appeal dismissed 7/10/77. Suppression order on his name.	News Supreme court	Supreme court 7/10/77. Advertiser 5/7/77 p.3 Advertiser 14/1/77 p.1
Coogee Beach 1993	M21*	3/11 1993	Coogee Beach NSW	Joseph Varga Centre	Student on school excursion allegedly stole property from a fisherman. Fisherman chased and caught student; teacher came to aid of student, was stabbed by fisherman, died in hospital.	News	Sydney Morning Herald 5/11/93 p.5
Deaths: *=leader or supervisor Inquests: I(T)=transcript I(D)=depositions I(C)=findings only NI=no inquest held reports: of incident=News of inquest=News (I)							Newspaper

Table 9: Natural causes

Incident	Deaths	Date	Location	Institution	Brief description	Source	News ref.
Bogong High Plains 1979	M?*	1979 (?)	Bogong High Plains Vic.	Bogong School Camp	Staff member accompanying bushwalk collapsed and died. Pre-existing condition, deceased knew, leader didn't.	pers. com. NI	
Coastal NSW 1991	??	1991 (?)	Coastal NSW camp	school group	Group including 14 asthmatics camping in tents. 1 died from asthma. Details unconfirmed.	pers. com.	
Renmark 1991	F14	19/5 1991	Murray River, near Renmark SA	Westminster College	6 staff, 30 students. Canoeing, 8pm. Mild asthmatic suffered severe attack.	News	Sunday Mail (SA) 26/5/91 p.1. ed.2
Coastal NSW 1992	?16	1992 (?)	Camp, Coastal NSW	School	Death from asthma. Smoking? Details unconfirmed.	pers. com.	
Mt. Stirling 1996	M~16	27/11 1996	Mt Stirling, King River Hut	Timbertop, Geelong Grammar	Student on unaccompanied bushwalk collapsed and died from known pre-existing condition shortly after beginning steep climb. CPR for several hours.	Conference pres. NI (?) News	Age 28/11/96 p.A4, 29/11/96 p.C6
Sam Hill 1999	F14	2/7 1999	Samuel Hill Army Camp at Shoalwater Bay on Queensland's central coast Qld.	School not stated; cadet camp	Girl collapsed (natural causes), unable to be revived (inhaled vomit).	News NI (C)	Courier-Mail, 6/7/99, p.6 ed.2
Margaret River 2001	M50*	8/5 2001	Margaret River WA	Penrhos College	Teacher died of natural causes during school camp.	News NI	Sunday Times 20/5/01 p.51
Deaths: *=leader or supervisor Inquests: I(T)=transcript I(D)=depositions I(C)=findings only NI=no inquest held reports: of incident=News of inquest=News (I)							Newspaper

Table 10: Motor vehicle

Incident	Deaths	Date	Location	Institution	Brief description	Source	News ref.
Christmas Creek 1979	F? F? F?* M?*	21/4 1979	Lamington Upper Christmas Creek Road	Brisbane Girls Grammar	19 students and 4 adults, teacher driving. Narrow winding road. Bus ran off road, rolled down slope 50m. 7 injured, 4 died at scene.	News	Sunday Mail 22/4/79 p.1
Anglesea 1980	M14, M15, F43	10/1 1980	Anglesea Vic.	Dept. Youth Sport Rec.	Camp for diabetic children. Station wagon transporting campers driven by DYSR employee, head on collision with another vehicle. 3 fatalities 1 from DYSR vehicle. 4 injured.	News	Herald 11/1/80 p.3
Cathedrals 1983	One	1983	Cathedrals VIC	Rusden College	Private car transporting students to field trip, student driving, passenger killed.	pers. com.	
Gordonvale 1987	F16 F16 F16 M15 M16 F17 F16 F17	4/2 1987	Gillies Highway, 8km SW of Gordonvale Qld.	Cairns State High School	Bus carrying 43 students and 2 teachers returning from camp left road, rollover. Driver (professional) blamed initially, found not to be at fault. Faulty brakes. 12 seriously injured, 8 died (7 at scene, 1 in hospital).	News News (I) (note: there were 2 inquests and a court case)	Courier-Mail 5/2/87 p.1 ed.2 Courier-Mail 3/7/92 p.1 ed.2
Morgan 1988	M17	23/1 1988	Private property near Morgan SA	Prince Alfred College	Student driving (licensed) utility on private property. Passenger travelling in the tray killed - details unknown.	pers. com.	
Catherine Hill 1990	M14	26/10 1990	Catherine Hill, Hume Highway near Bowral NSW	Sydney Adventist College	Victim wheeling cycle on breakdown lane (D of E expedition). Hit by truck - driver swerved off road while trying to retrieve dropped cigarette.	News	Sunday Telegraph 28/10/90 p.1
Flinders 1992	M14	1992	SA	Operation Flinders	Driver lost control on gravel. Returning from expedition, details unknown.	pers. com.	

Coober Pedy 1993	F16	18/9 1993	Coober Pedy/William Creek SA (Vic. school)	Mt Lilydale Catholic College	Bus carrying 40 students and 5 tonne trailer, professional driver, lost control on bend, rollover, 16 injured, some serious, 1 fatality.	News	Herald Sun 27/4/94 p.3 ed.4
Chillagoe 1997	F18	20/6 1997	Chillagoe Qld.	Cadets	After travelling for 12 hours 16 cadets loaded into tray of a utility (Landcruiser) to travel to a campsite on private property. Rollover, victim killed instantly. Vehicle found to be unroadworthy.	News	Sunday Mail (Qld.) 17/1/99 p.8 ed.2
Omeo 2000	F17 F16	14/8 2000	Joker's Flat, Omeo Vic.	Woodleigh School	4wd teacher driving, left road, rollover. 2 students died at scene.	News NI	Herald Sun 15/8/00 p.2 ed.1
Deaths: *=leader or supervisor Inquests: I(T)=transcript I(D)=depositions I(C)=findings only NI=no inquest held reports: of incident=News of inquest=News (I)							Newspaper

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