# *Playing Safe*

## *Managing Visitor Safety in the Countryside*

*supported by:*




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# *Playing Safe*

Proceedings of a workshop organised by the Countryside Recreation Network at The York Hotel, York

Edited by Catherine Etchell,
CRN Manager

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# Contents

# WHY IS VISITOR SAFETY IMPORTANT?

*Dr David J Ball*

*Centre for Environmental and Risk Management*

## INTRODUCTION

Substantial changes have taken place over the last few years in the way in which health, safety and environmental protection are thought about and are required to be managed. Occupational safety, industrial safety, transport safety, and environmental pollution control have all been in the spotlight in this respect[1], but quiet revolutions are also underway in other domains such as the safety of visitors to recreational sites including forests, rivers, coastal areas and sites of national heritage. The purpose of this paper is to summarise the trends, identify a few relevant techniques, and provide some pointers for the visitor sector.

## WHY VISITOR SAFETY IS IMPORTANT

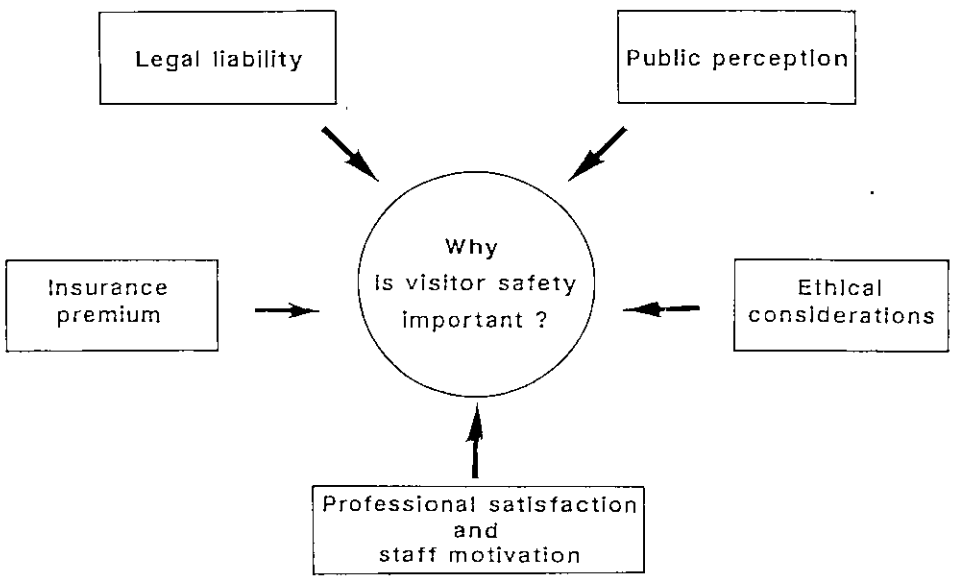


Figure 1: Five motivations for pursuing visitor safety.

Figure 1 gives five reasons for seeking visitor safety. There may be others, but these provide a starting point. Clearly, legal liability is an important consideration although it would be unfortunate if it were the primary motivation. To my mind the primary motivation should be to provide a *reasonably safe* environment, where *reasonably safe* is a qualifier which has, by some means or other, been anchored in the present day priorities and aspirations of the public. To achieve this, one would need to be aware of public preferences in terms of safety in relation to other goods, e.g. access to wild areas without undue hindrance, and preservation of items which are part of our heritage but which may not conform to latest design criteria. In other words, a balance has to be struck between what may well be competing objectives. To address these trade-offs it is necessary, therefore, to understand how the public perceive risks and benefits of various kinds. Fortunately, a great deal of research has been carried out on this topic, although it has to be said that it is scattered through the academic literature in a way which is anything but user friendly. Public perception is also important from the point of view of post-accident trauma, and the attitudes which may be formed if an organisation is deemed not to be taking adequate measures to protect the public.

## TRENDS IN SAFETY MANAGEMENT

Rapidly going out of fashion is the old style approach to safety based upon compliance with specific regulations. This is being replaced by horizontal legislation which sets general rules for safety assessment and management across a whole range of activities. The recent European Directive on Health and Safety in the Workplace provides a good example. This Directive also stresses that safety measures should be based upon an assessment of the risk associated with any particular hazard. It is also important to note that in Britain the final responsibility for accepting or not accepting an assessed level of risk lies with the duty holder, although there is general guidance in that risks should be reduced as far as reasonably practicable.

## DEFINITIONS

To meet the new social and regulatory requirements the techniques of risk assessment and risk management are increasingly called upon in all sectors. There is nothing new about these techniques, other than that attempts have been made to codify them in recent years. Despite this, there are no universal definitions of even basic terms such as *hazard* and *risk*, let alone how to conduct risk assessment and management. However, for the purpose of this paper hazard is taken to mean a situation or condition which in particular circumstances could lead to an undesirable consequence (harm), and risk signifies the probability of a particular adverse event occurring during a stated period of time.

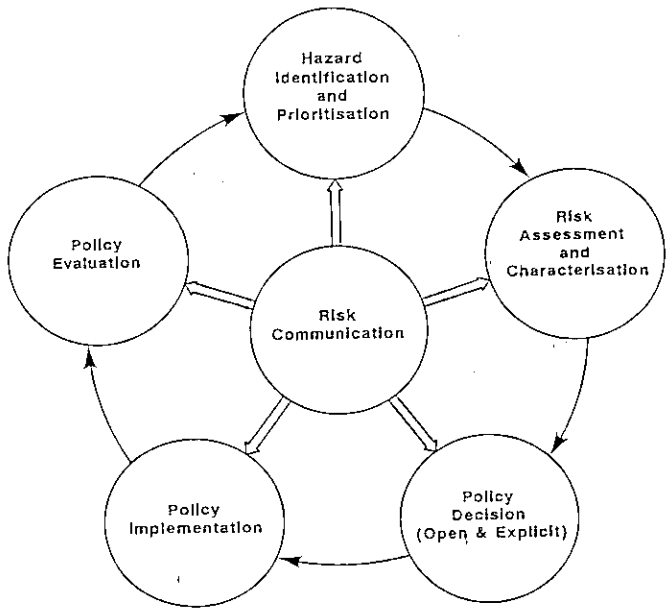


**Figure 2**: One way of looking at the risk management process.

Figure 2 shows the risk management process as an essentially cyclical process. Hazard identification is usually considered the starting point, which is followed by risk assessment. These are largely technical activities. Then comes the policy formulation stage in which decisions are made about priorities and strategies. This stage involves consideration of social, economic and legal criteria in addition to the technical information emerging from the risk assessment.

## APPROACHES TO HAZARD IDENTIFICATION AND RANKING

| | |
|---|---|
| Experience | |
| Check lists | |
| Brainstorming | |
| Available actuarial data eg. | EHLASS,<br>ad hoc studies etc |
| Semi-quantative approaches | |
| More systematic approches eg. | HAZOP<br>ETA<br>FTA |

**Figure 3**: Methods of hazard identification.

The most widely used methods of hazard identification are also the simplest. A list is provided in Figure 3, in which the simplest are at the top. Some agencies have set up their own accident data bases, but failing that it may be possible to use published data, usually collected for more general purposes, although the generality may be a hindrance when one has very specific interests. Even so, it is worth scanning the literature very carefully because useful nuggets of information may be found even if they do not provide all the answers. The list in Figure 3 also refers to sophisticated techniques such as the hazard and operability study (HAZOP), event tree analysis (ETA) and fault tree analysis (FTA). These techniques are mainly used in heavy industry, but are beginning to find wider application where accident consequences are large.

However, a simpler approach is more likely to be appropriate for most applications in the visitor safety sector. Figure 4 illustrates a simple scheme for ranking five hazards in terms of priority for further evaluation.

| Hazard | Frequency (F) of accidents per year | Consequence (C) (on a scale of 1–6, 6 being most serious) | Priority (F x C) | Ranking |
|---|---|---|---|---|
| Unfenced drops | 2 | 2 | 4 | 1 |
| Poisonous plants | 0.5 | 0.5 | 0.25 | 5 |
| Wild animals | 1 | 0.5 | 0.5 | 4 |
| Falling trees | 3 | 1 | 3 | 2 |
| Avalanches | 0.1 | 6 | 0.6 | 3 |

**Figure 4:** A simple semi-quantitative scheme of hazard ranking

## SAFETY INVESTMENT DECISION MAKING

As noted above, decisions about safety investment are the responsibility of the organisation managing the hazard. However, useful guidance has been provided by the Health and Safety Executive which elaborates on earlier case law. Figure 5 shows how risks associated with an activity are first assessed against three criteria:[2].

- whether a given risk is so great or the outcome so unacceptable that it must be refused altogether (top zone).
- whether the risk is, or has been made, so small that no further precaution is necessary (bottom zone)
- if a risk falls in the intermediate zone, that it has been reduced to the lowest level practicable, bearing in mind the benefits arising from its acceptance and taking into account the costs and difficulty of any further reduction.

Inherent within the scheme outlined by Figure 5 are a number of fundamental concepts. Firstly, the idea of zero risk has been rejected. Instead, the notion of tolerating risks in exchange for the benefits of risky activities is introduced. Secondly, above a certain level a risk is regarded as

intolerable and cannot be justified in any ordinary circumstances. Thirdly, below the intolerable risk level an activity may take place provided that the associated risks are as low as reasonable practicable (ALARP).

An important question revolves around where the boundaries between the three zones might lie. The HSE has noted that, broadly, an individual risk of death of 1 in 1,000 per annum is about the most that is ordinarily accepted under modern conditions for workers in the UK and that it seems reasonable to adopt this figure as the dividing line between what is just tolerable and what is intolerable. This, however, applies to the workforce and the HSE has proposed a lower figure of 1 in 10,000 per annum as the equivalent criterion for members of the public. For comparison, this risk of 1 in 10,000 is the same as the annual risk of being killed in a road traffic accident.

It could be argued that these risks are high and that the boundary between just tolerable risk and intolerable risk is inappropriately gauged. However, there is no need to insist on too low a figure for this boundary because the process of driving down the risk is present, that is, duty holders are compelled to reduce risk until as low as reasonably practicable.

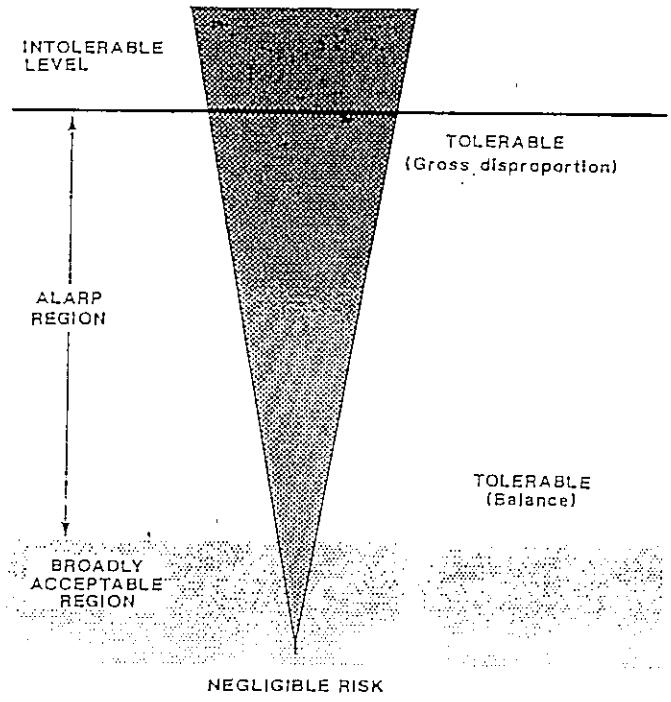


Figure 5: Risk and the ALARP criterion. [2]

So far as the level of individual risk which might be considered broadly acceptable is concerned, the HSE has proposed that this could be taken as one in a million per annum, since this would constitute a very small addition to the ordinary risks of life. The Royal Society Study Group on Risk[3] has argued from a different perspective, but with similar conclusions, that:

"Few people would commit their own resources to reduce an annual risk of death as low as 1 in 100,000 and even fewer would take action at an annual level of 1 in a million".

For those activities whose risk level falls in the ALARP region it is necessary to balance the benefits of any risk reduction measure against its costs. This is carried out notionally in most cases, but where the issues at stake are significant formal techniques of risk-benefit or cost-benefit analysis may be used. This, in turn, implies that a monetary value be assigned to human life and other non-fatal injury states. Bizarre though this may appear, methods, based on public willingness to pay, are now quite well established and widely used in the UK.[1]

Figure 6 is a histogram of values of life taken from literature.[4] Valuations are highly variable due to methodological problems as well as genuine variability in public preferences. Currently, the most widely used figure in Britain is close to £1 million per statistical fatality avoided. There is considerable debate, however, over the extent to which this figure would and should differ depending upon the kind of hazard, who is exposed, and, for example, whether the hazard is the responsibility of a public body or a profit making organisation. These aspects need, at least, to be acknowledged in the decision process. Beyond that, of course, is the broader context of the risk decision which may impinge upon wider issues.

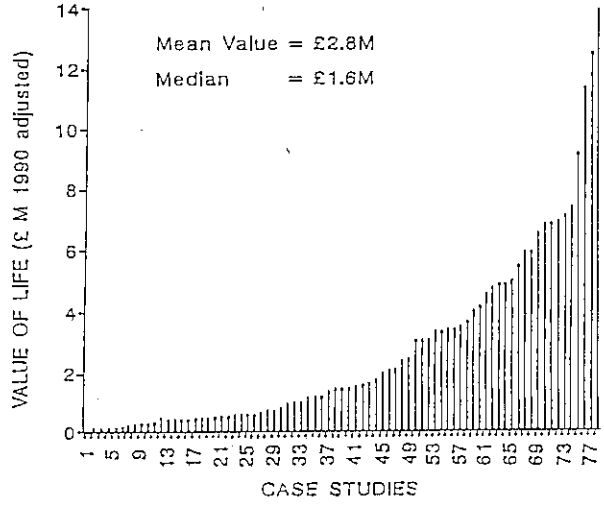


**Figure 6:** Values of life for safety investment purposes based upon a literature review. [4]

## EXAMPLES

A couple of examples may serve to illustrate some of the principles of risk assessment and management. Two of which, related to visitor safety, are the provision of playgrounds for children, and water slides.

One of the finest children's playgrounds which I have ever seen is located in Grizedale Forest Park in the Lake District. The imaginative design provides an inspiration to children and parents alike, but given the 'hoo-ha' over child safety in playgrounds in recent years, one is bound to be asked sooner or later if it is safe and does it comply with British Standards. The imaginative design places the playground well outside of anything dreamt of by the BSI, so the latter is largely a non-starter. The first question, however, can be resolved by reference to local knowledge and experience, and the DTI EHLASS ( Environmental Health Local Authority Safety Satndards) database on playground accident risk. Study of this data base, and others, has shown that contrary to popular (and media) belief, playgrounds are relatively and perhaps surprisingly low risk venues and do not warrant major overhaul in order to reduce risk.[5],[6] Calculations show that major works, including the retro-fitting of impact absorbing surfacing, are not reasonably practicable measures. Instead, what is important is to provide ample, reasonably safe, play facilities for children so that they may experience the rewards of play in circumstances away from the far greater hazards posed by traffic, construction sites and other unsuitable venues.

As for water slides, it is rather hard to generalise as these come in many forms and with different operating procedures. However, some which I have seen make use of closed or partially closed tubular structures down which participants are invited to slide. Some varieties incorporate a traffic light system at the top to dissuade practitioners from entering too closely to the person in front. However, my experience is that such systems may conceal inherent design faults. For example, if the sensor which triggers the traffic light is not at the exit of the chute, it may be possible under some circumstances for a user to catch up the preceding person, even if they obey the lights. I have recently investigated such a facility as a result of a spate of collisions and broken limbs. The manufacturer had, in this case, located the sensor two-thirds of the way down the chute and timings of participants showed that even though a further three second delay had been built into the system, the risk of collision was still unacceptably high. Further, since the cost of moving the sensor was minimal, it would not have been fruitful to reference the ALARP criterion.

## RECOMMENDATIONS

In terms of public exposure to risk, much of my experience stems from having worked in and with local and metropolitan authorities. There I have found that while officers frequently have excellent experience and have made very appropriate decisions, fairly seldom is this explicitly written down in a formal safety policy. Even more rarely are there supporting documents which provide an audit trail of the reasoning behind the policy and which identify sources of information upon which decisions have been based. This is unfortunate because, in this increasingly litigious society, it is the first thing which is likely to be asked for in the (inevitable) event of a serious accident. Nor need this be a particularly onerous task. To my mind a safety policy should demonstrate:

- awareness of the hazards and risks (including relevant research)
- awareness of legal, regulatory and advisory positions
- awareness of public and societal aspirations (definitely not zero risk)
- the decision process and its basis
- means of implementation
- monitoring and feedback

And, of course, this will go some way to satisfying all the reasons for managing visitor safety as depicted in Figure 1.

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* These reports and papers are available from CERM, School of Environmental Sciences, University of East Anglia, Norwich NR4 7TJ. Tel: 01603 592838.

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# MANAGING THE HEALTH AND SAFETY OF VISITORS

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## WHY MANAGE VISITOR HEALTH AND SAFETY?

There are 3 basic reasons why landowners who invite members of the public onto their land and provide facilities and organise events should manage the health and safety of those visitors.

### It's the Law

The Health and Safety at Work Act (HASWA) Section 3 places duties on employers to persons other than their employees. In particular employers have a duty to conduct their undertaking in such a way as to ensure, so far as is reasonably practicable, that persons not in their employment who may be affected by their undertaking are not exposed to risks to their health and safety. The Management of Health and Safety at Work Regulations (MHSWR) Regulation 3 requires every employer to make a suitable and sufficient assessment of the risks to the health and safety of persons not in his employment arising out of or in connection with the conduct by him of his undertaking. Both HASWA and MHSWR place similar duties on the self-employed.

'Undertaking' is not defined in either HASWA or MHSWR but is taken to mean the business activities of or services provided by the organisation. Recreation would be taken to be part of an organisations 'undertaking' where they invite members of the public onto their land and provide facilities for the public to use and organise events which the public participate in.

Where recreation is part of the undertaking the organisation has a duty under HASWA to ensure, so far as is reasonably practicable, the health and safety of people who may be affected by the provision of recreation. They also have a responsibility under MHSWR to conduct a risk assessment of the recreational facilities and events provided.

### Money

If a person is injured through what he or she considers to be the negligence of another person or

organisation they can bring an action for damages against that person or organisation in the civil courts. In order to win an action and be awarded damages a person must demonstrate that they were owed a duty of care, that the duty was breached and that the injury arose from the breach of duty.

Organisations who invite members of the public onto their land and provide facilities and organise events may also owe members of the public a duty of care under Civil Law. The civil duty of care is, in part, defined by the Occupiers Liability Act 1957 (as amended by the Defective Premises Act 1972), the Occupiers Liability Act 1984 and the Occupiers Liability (Scotland) Act 1960. There is also a body of common law which is formed by the precedents created by the decisions given in legal cases. This duty of care is to see that the well-being of the visitor will be safeguarded in their use of the premises for the purpose for which that person is invited or permitted by the occupier to be there.

The extent of the care which organisations owe to members of the public can be crudely equated to the extent of their involvement/interaction with the public.

### Morality

This heading can cover a number of somewhat intangible but nevertheless significant areas.

- Organisations who invite members of the public onto their land and provide facilities for the public to use and organise events which the public participate in, do not do so with the intention of having accidents.
- The trauma and stress associated with an accident can be considerable.
- Adverse publicity arising from an accident can be considerable and have far reaching consequences for the organisation.

## HOW COULD YOU MANAGE VISITOR HEALTH AND SAFETY?

It is clear that organisations who invite members of the public onto their land and provide facilities and organise events must manage their recreational facilities and events for health and safety. The degree of management will depend upon the extent of the duty of care owed. Risk assessment (a requirement of MHSWR) provides a valuable tool to be used in management of the health and safety aspects of recreation: it will enable managers to identify hazards, assess risks, and identify controls and monitor controls. In short, it will enable managers to prioritise.

Risk assessment is one of 4 stages necessary to set an adequate health and safety performance standard. These 4 stages are:

- Hazard Identification – identifying that which has the potential to cause harm;
- Risk Assessment – assessing the risks which arise from the hazard. The level of risk can be assessed by relating the hazard severity (the worst likely outcome) to the likelihood of occurrence;
- Risk Control – deciding on suitable measures to eliminate or control risk;
- Implementing and Maintaining Control Measures – implementing control standards and monitoring to ensure that they remain effective.

**Hazard Identification**

Before risk assessment of a task can be done the hazards associated with the task must be identified. This can be carried out using:

- personal knowledge and experience of managers and employees engaged in the task;
- constraints map or site plan;
- safety audits and inspections;
- HSE guidance;
- accident statistics;
- information from suppliers, industry or trade associations;
- British or International Standards.

**Risk Assessment**

When the hazards have been identified they should be prioritised in order to establish those hazards which present the highest risk.

The level of risk can be determined by relating the hazard severity (the worst likely outcome) to the likelihood of occurrence *assuming that there are no controls in place.*

The hazard security or worst likely outcome can be broken down under 4 headings:

- Fatal;
- Major injury or disease
- Minor injury or disease
- Vehicle, machine or equipment damage but no injury.

The likelihood of occurrence can be described using 5 phrases. Each phrase can be allocated a numerical probability

| | | |
|---|---|---|
| Likely | occurs repeatedly, even expected | 1 in 10 |
| Probable | not surprising, will occur several times | 1 in 100 |
| Possible | could occur some time | 1 in 1,000 |
| Remote | unlikely to occur, though conceivable | 1 in 10,000 |
| Improbable | so unlikely that probability is close to zero | 1 in 100,000 |

The level of risk can be given in 4 classes:

- High Risk 1
- Moderate Risk 2
- Minor Risk 3
- Acceptable Risk 4

The hazard severity (worst likely outcome) and likelihood of harm occurring can then be used to set out a risk priority matrix.

| | Likely | Probable | Possible | Remote | Improbable |
|---|---|---|---|---|---|
| Fatal | 1 | 1 | 2 | 3 | 3 |
| Major Injury or Disease | 1 | 1 | 2 | 3 | 4 |
| Minor Injury or Disease | 2 | 2 | 3 | 4 | 4 |
| Machine Damaged but no injury | 3 | 3 | 4 | 4 | 4 |

When judging the level of risk consideration should be given to the *number* of people who may be harmed. In addition, certain groups of people may be particularly vulnerable, e.g. children and the less able.

Risk Control

At this stage activities have been divided into sets of hazards which have then been prioritised to highlight those with greatest inherent risk, assuming that no controls are in place. The next stage

involves identifying appropriate methods for controlling the risks. This must be done by reference to HSE guidance, industry best practice and current information available from within the organisation. A judgement is required at this stage as to whether, given the level of risk, the controls are adequate.

### Implementing and Maintaining Control Measures

The final, and perhaps most important stage, is implementing and maintaining the control measures. This will involve putting the control measures in place and ensuring that they remain in place. Logically, the level and frequency of monitoring should be commensurate with the level of risk. Responsibility for putting the controls and ensuring that they remain in place should be allocated to specific individuals.

The extent and detail of the risk assessment will, of course depend upon the initial assessment of risk: for example, the risk assessment for a children's adventure play area used by 300 thousand children per year would be quite detailed while the risk assessment for a network of walks in a forest or grounds used by 30 thousand people per year would be short and relatively straightforward. An example is given below.

### RISK ASSESSMENT, A WALK

**HAZARD**
Slip/trip on steps, walkway, bridge.

**Number at risk**
30 thousand per annum (25 thousand April—September).

**Worst likely outcome**
Major injury.

**Likelihood of occurrence**
Possible.

**Risk class**
Moderate.

**Current controls**

Visual Inspection weekly during April--September/monthly during October--March.

Close/re-route around any broken or loose steps.

Replace steps within 24 hours.

Engineer to inspect bridge annually.

**Controls to be monitored by**

J Smith, Ranger.

E Jones, Forester will arrange engineers inspection annually in March.

**HAZARD**

Falling Trees.

**Number at risk**

30 thousand per annum (25 thousand during April—September).

**Worst likely outcome**

Fatal.

**Likelihood of occurrence**

Improbable.

**Risk class**

Minor risk.

**Current controls**

Obtain a professional assessment of trees a,b,c, and d annually in March. Visual inspection of all trees around car park and walk monthly and after high winds.

**Controls to be monitored by**

Professional assessment to be arranged by E Jones, Forester.

Inspections by J Smith, Ranger

# NATIONAL TRUST POLICY AND PRACTICE ON VISITOR SAFETY IN THE COUNTRYSIDE

*Andrea Beddows*

*National Trust*

## INTRODUCTION

Access to the countryside is a principal purpose of the Trust, being one of the main interpretations of "benefit to the nation". As the Trust owns 1% of the UK, its responsibility for providing access is great. Ownership is currently 235,000 hectares and there is access to a very significant part of its coast, woodland, rivers, lakes, downland, moorland and mountains.

At least 50 million visits are made to Trust countryside properties each year. Many of these properties have high numbers of visitors, for example:

Dovedale—2 million;
Cheddar Gorge, Box Hill, Studland,Clumber Park—1 million;
Carneddau,Calke Park—500,000;
Giant's Causeway—450,000.

Over 40 different recreational activities take place on Trust land, and are pursued by people of all ages, fitness and ability; including the elderly rambler or coach party, school and college groups, active sportsmen and women on foot, pedal bike, motor bike or horse, in the air, or on the water, visitors with disabilities and visitors from abroad.

Given this wide range of property types and visitor, it is perhaps not surprising that accidents happen, at a variety of levels from minor cuts, bruises and insect bites, to fatalities. The most common causes of major accidents are slips, trips and falls from height and those associated with water.

## VISITOR SAFETY POLICY

The following key objective for visitor safety is contained within the Statement of Intent from the Trust's Health and Safety Policy:

"The Trust will endeavour to ensure that, while meeting its obligations under the National Trust Acts, all practicable measures are taken to minimise risks to its visitors, whether arising from its own activities, the characteristics of its historic buildings or the features of the natural landscape in its care."

### Health & Safety staffing structure

There are two professionally-qualified members of staff in the central Health and Safety Section, which is responsible for the provision of advice and guidance to Regions to enable them to implement this policy. In addition, each of the Trust's 16 Regions has an appointed Regional Health and Safety Coordinator—they are usually managing agents, personnel officers or volunteer coordinators who distribute health and safety information, raise awareness and provide a link with the Health and Safety Section. The Section also works closely with others such as the Fire Adviser, Insurance Manager and Security Adviser, all of whom have an interest in risk management.

## KEY HEALTH AND SAFETY ARRANGEMENTS

Three key mechanisms have been developed to implement the Trust's objectives and achieve high standards of health and safety—Workplace Inspections, Property Health and Safety Audits, and Risk Assessment. For the purpose of this talk, I shall be looking at the latter two, as they are the most specific to visitor safety.

### Property Health and Safety Audit

The Property Audit is a form of structured inspection designed principally to assess current health and safety systems at a property, to identify significant risks to staff and visitors, and to help monitor compliance with health and safety legislation.

Audits are carried out by Managing Agents, generally on an annual basis, although this is occasionally relaxed for smaller properties. They are carried out at all properties under NT control i.e. not leased or tenanted properties at this stage.

There are two audit proformas, one for houses and gardens, the other for coast and countryside properties. Managing Agents can amend the format to suit the needs of the property, since the proforma is merely a tool. It has been designed to be combined with similar auditing processes devised by other Head Office Departments i.e. fire, environment etc.

The Audit will identify areas where improvement is necessary. An action plan is recommended to set priorities, targets and responsibilities. Local decision-making determines appropriate precautions, taking into account the number of visitors, the nature of the property, and the Trust's conservation obligations.

## Risk Assessment

Risk assessment is a specific legal requirement under the Management of Health & Safety at Work Regulations (MHSWR) 1992. As an employer, the Trust has to make an assessment not only of the risks to the health and safety of employees, but also non-employees (including visitors) which may arise from the Trust's undertaking. In this respect, one of the Trust's objectives is to ensure that most effort is concentrated on areas of significant risk and not expended on trivial tasks. Other objectives are to minimise the additional workload on staff, and to avoid a cumbersome administrative system.

One of the difficulties has involved the definition of 'undertaking'. It is easy to see that this covers work activities such as walling, fencing, tree felling etc, all of which may affect the safety of visitors. The Trust has also assumed that it encompasses the provision of access to properties which it owns and controls, and therefore endeavours to identify natural and man-made hazards, and to assess the risks to which visitors might be exposed.

Risk Assessment requires the Trust to examine its activities systematically, which involves:

- identifying hazards, which will have been highlighted by the Property Audit;
- examining existing precautions;
- evaluating the extent of the risk, taking into account the nature and extent of visitor access, and conflicting conservation requirements;
- adopting or refining precautions to reduce the risk further.

## MODEL RISK ASSESSMENTS

'Model' risk assessments are a key element of the Trust's procedures, enabling hazards and precautions for particular work activities, the use of equipment or site characteristics to be identified and set out in a consistent format. They also help the Trust comply with legal requirements. A model sets out a predetermined standard which property staff then compare with their own circumstances. Explanatory notes have also been prepared to assist this process.

## SITE RISK ASSESSMENT

Standard procedures and forms have been developed to allow properties to record their own local assessment of risks to visitors. The range of information recorded includes:

**Nature of the hazard**

| | |
|---|---|
| Worst Case Outcome | i.e. fatality, major injury or permanent disability, minor injury. |
| Groups at Risk | i.e. staff, trainees, volunteers, visitors. |
| Current Precautions | careful comparison with relevant model assessments or other guidance reviews existing precautions. Precautions may include:<br><br>• Physical safeguards to prevent or discourage access to hazards;<br>• Physical measures enabling safe access;<br>• Supervision at properties; and<br>• Provision of information through signs and notices. |
| Estimation of Risk | numerical values have not been used, but staff are encouraged to record their own subjective evaluation of risk taking into account the potential outcome, groups at risk and current precautions. The conclusions are likely to be:<br><br>• High – risk of serious or fatal injury, essential precautions not in place;<br><br>• Medium – serious risk of minor injury, some important precautions lacking or insufficient, longer-term remedial action necessary;<br><br>• Low – minor injury likely, less important deficiencies, some remedial action desirable; |
| Further Precautions | additional measures are identified so as to minimise risks, with an action plan drawn up to identify priorities. |

Written guidance and training are prepared and provided by the Health and Safety Section for both the Property Audit and Risk Assessment. Systematic monitoring of audit proformas and site risk assessments are undertaken by Region's and the Trust's Health and Safety Officers.

## SIGNS AND NOTICES: SOME EXAMPLES

The provision of information is a key element of the Trust's strategy to reduce risks to visitors from particular hazards e.g. falls from height and drowning. Clear, concise information allows visitors to make informed decisions on behaviour, actions, or choice of route. It also helps the Trust to comply with its duties to visitors under the Health and Safety at Work Act 1974.

Trust properties use a great range (in terms of size, design, content and construction) of signs and notices to convey health and safety information. This variety undoubtedly makes it difficult for visitors to interpret signs. One of the Trust's current tasks is to develop greater consistency (although not absolute uniformity) in the use of safety signs, notices and information panels. Some key points are worth noting:

- signs should be adopted as a precaution following an assessment of risk, and they can be used in conjunction with other physical measures e.g. fencing;

- the use and balance between symbols and wording needs to be carefully considered, as very often there is a need for more comprehensive information, e.g. on emergency procedures, conservation or other management details;

- the location of warnings, e.g. in car parks or at principal access points, is crucial, since general warning signs need to be seen by as many people as possible, whilst more specific reminders should be placed to enable visitors to take in information and act upon it before being exposed to the risk;

- it is useful to evaluate and monitor visitors responses to signs to ensure they are in the best location, are properly understood and have the desired effect.

## THE DUTY OF CARE – DILEMMAS FOR PEOPLE AND PLACE

The Trust faces dilemmas between, on the one hand, health and safety legislation and the duty of care, and on the other, between the requirements of the National Trust Acts with regard to conservation and access. Difficulties are increased as society becomes increasingly litigious, and public expectations impose greater demands.

Overly obtrusive safeguards can compromise people's sense of freedom and adventure, whilst limiting their perception that land and water can be dangerous. Safety works can damage conservation interests e.g. cliff stabilisation work, or safety work on old trees. Aesthetic interests can also be compromised.

Concerns were recently expressed by the Trust's Access Review Working Party that these dilemmas can compromise access. The Review identified several points to consider in future:

- The Trust must continue to meet its duty of care;
- Risk assessment should critically assess the balance of responsibility between landowner and visitor;
- The Trust should foster education to help visitors become 'countrywise', and should attempt with others to influence the public's perception of visitor care.

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# BRITISH WATERWAYS APPROACH TO USER SAFETY

*Mike Barrett*

*British Waterways*

## INTRODUCTION TO BRITISH WATERWAYS

British Waterways is responsible for the management of some 2000 miles of canal and river navigations throughout England, Scotland and Wales. When discussing user safety it is easy to focus on the people who own or hire one of the 23,000 boats on the system. In fact boaters are in the minority. It is estimated that we receive around 158 million visits each year from a total of seven million people. Apart from boaters these will include walkers, cyclists and anglers and water sports participants. The wide geographical spread of our staff means that most of these activities are undertaken unsupervised.

Other major factors affecting the way we manage user safety are the wide variety of structures, many of which are of historical interest; and environmental issues.

## WHY THE CONCERN OVER USER SAFETY?

There are a number of reasons why we are concerned about the safety of waterway users:

• Increasing expectations of a safe environment.
For many years now the public's expectation, and indeed assumption, of safe environments has been increasing and this trend is likely to continue. Meeting the expectations of our users is one of our major aims.

• Legal requirements.
Whilst we regard legal requirements as the minimum standard, we need to be sure these are met.

• Managing resources.
Our resources are limited and there are many demands placed upon them. We need to be confident that we have reconciled these often conflicting demands and used our resources to greatest effect.

• Defensible position.
It is of course not possible or practicable to provide absolute safety. Should something go wrong we want to be in a position to show that what we do is fair and reasonable. This is especially important as society becomes more litigious.

• Keeping control.
Some organisations have had inappropriate and sometimes unnecessary measures imposed upon them as a result of incidents or enquiries. We want a full understanding of our risk and keep control ourselves.

• Business.
Realising customers expectations is good for business.

Although BW has been putting considerable effort into user safety issues for many years now, concern for safety led us to completely re-examine and review our whole approach, hence the setting up of the user safety programme.

## THE ISSUES

**Figure 1: How to manage the user safety programme**

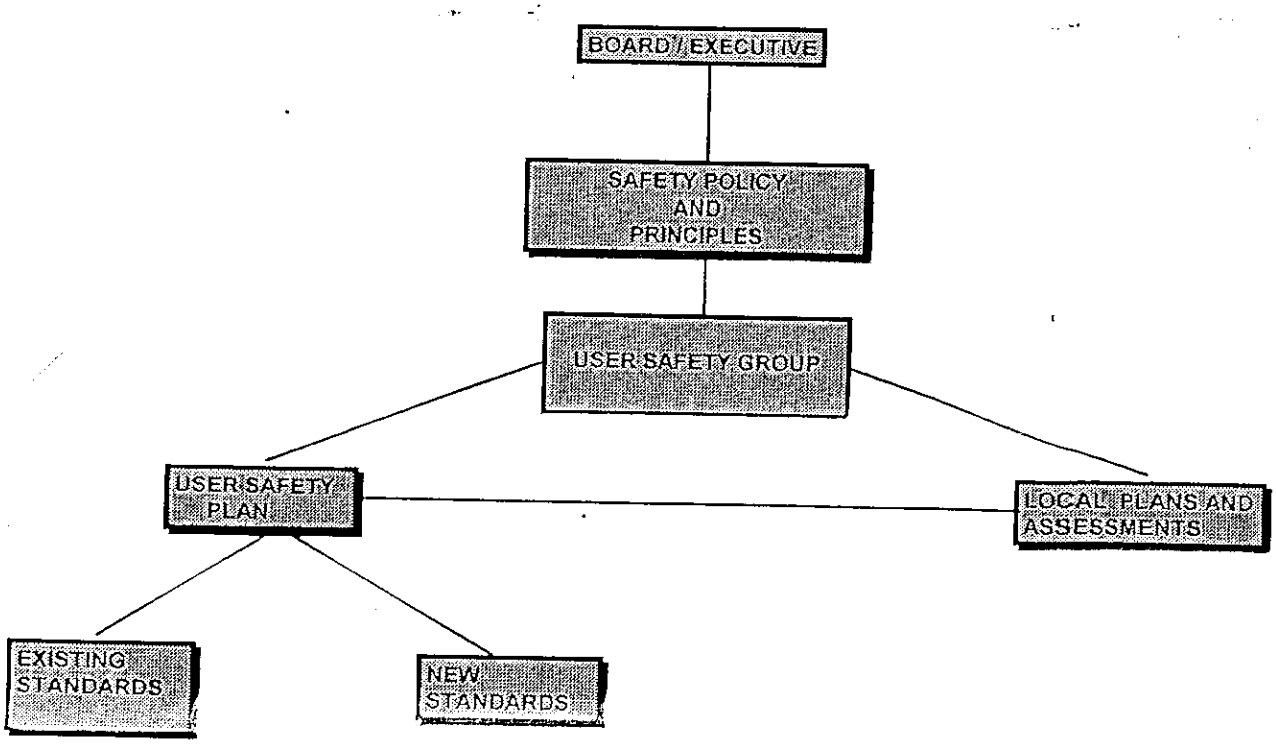


Figure 1 illustrates how we achieved this. The User Safety Group was drawn from a wide cross section of BW staff. Having identified the areas of work needing to be addressed, a paper proposing a programme of work was presented to our Board and Executive and their endorsement obtained. Following this, our safety policy was completely rewritten to give greater prominence to user safety.

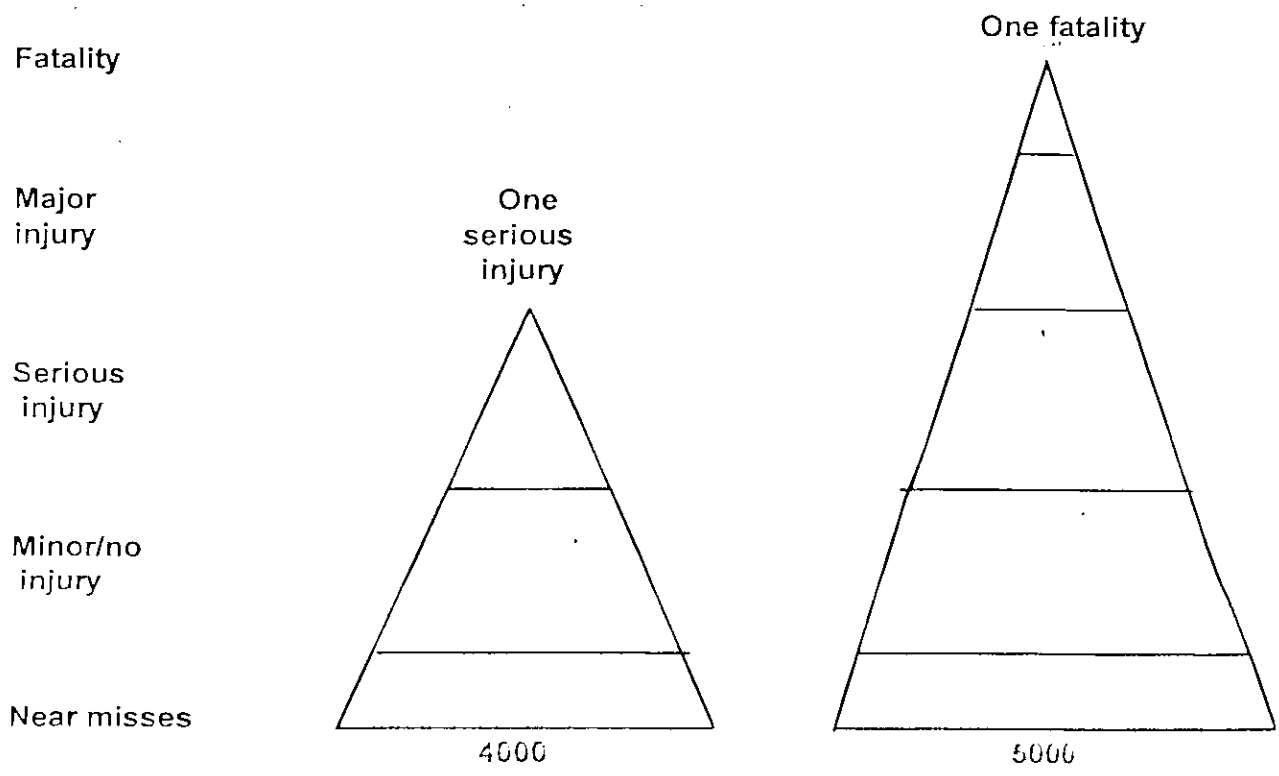
Following extensive examination of practices elsewhere, notably Canada, we drafted a User Safety Plan, discussed further below. Into this plan we incorporated all the relevant current standards and practices and identified where new standards would be required.

The next major step is to develop local plans and assessments. These will be piloted later in the year and are discussed further below.

## What is safe enough and are we there?

Firstly we have to determine the overall risk experienced by our users. The obvious starting point for this is to examine the accident statistics. Whilst we are confident that we get to hear about all the fatalities that occur, we are equally aware that non-fatal accidents are grossly under-reported. Even with improvements to our reporting systems and greater encouragement of users, under-reporting is likely to remain with our staff so thinly spread. We must therefore look to other sources of information to gain a better understanding of the risk actually being experienced.

**Figure 2: Examples of severity triangles**



We have found that by incorporating a simple question into our customer surveys, large amounts of relevant information are obtained. When analysed this reveals the relationship between severity of accident and can also be extended to near-misses. When combined with fatality data, this information can be presented in terms of severity triangles, (see figure 2).

The Leisure Accident Surveillance System (LASS), run by the DTI, has also been examined. This system collects casualty data, including severity and location, from the accident departments of a sample of hospitals. We believe this system could provide us with much useful data, however at present the data on the location of accidents is too coarse to allow us to identify which is relevant. The potential benefits of this system are judged great enough to warrant following up these weaknesses with the DTI.

By using these combinations of statistics, survey results and sample data we believe we can establish with sufficient accuracy the levels of risk being experienced by our users.

We then need to consider whether these risks can be considered acceptable. In a real world there can be no such thing as zero risk and we should not set this as our goal. We also need to recognise that acceptable risks will vary with activity.

Much work has been done on risk acceptability in the context of major hazard industries and this has already been discussed in David Ball's paper. In British Waterways we are also pursuing the concept of risk comparators in determining risk acceptability. Thus we would not expect anyone undertaking an activity on our property to experience any greater risk than is accepted elsewhere for comparable activity. Data currently available on fatality accident rates suggests that the overall rate for BW user's is comparable to travel by train. We are continuing to develop these concepts.

**How much is it reasonable to spend to improve safety?**

It is usually possible to find ways of reducing risks but we need a way of deciding whether the improvement obtained can justify the expenditure and whether available funds could be used to better effect elsewhere. This entails some form of cost benefit evaluation. Much work has been done on determining values of life and we are looking at ways in which this could be extended to injuries. Where risks can be quantified cost/benefits could then be determined.

This type of approach can also be used to prioritise work, that is, ensure that resources are directed to where the greatest risk reduction is achieved in the shortest time and at least cost.

How do we reconcile conflicting priorities on environment and heritage issues?

We recognise that the reduction of risk may not be possible without detriment to these other issues and that a balanced judgement needs to be made. We need to make sure that all relevant factors have been taken into account in these judgements and that they are well documented and defensible. Developments in the application of cost/benefit to environmental issues will continue to be closely monitored.

**Resolving conflicts between user groups**

One user's activity can give rise to anothers risk and we need to ensure that our risk assessments identify these conflicts.

**figure 3: User safety plan**

- **Public safety programme**
- **Management of the programme**
- **Overview of accident data**
- **Acceptability of risk**
- **Current risk control**
- **Issues list**
- **Work programme**

Figure 3 shows the content of our user safety plan which has been based on that prepared for the Banff National Park in Canada. By its nature the plan will steadily evolve and become more refined as the work progresses. The prime aims of the plan are outlined as follows:

- **Describe the process**

The way in which the user safety programme is managed and who is responsible for what within BW.

- **Specify the targets**

This section specifies the risk targets we are working towards. This is a major item of outstanding work in the programme.

- **Where we are**

Within the limitations of the data currently available to us, we state the level of risk currently being experienced by users and how this compares with the targets we have set ourselves.

- **Current best practice**

This advises managers on the current recommended best practice for managing risk in the area of activity. Reference is made to internal and external standards where these are available.

• **Outstanding issues and future work**

The assessment work invariably raises a number of issues which cannot be dealt with immediately. These are in addition to those long running issues which still await (or defy) resolution. The issues list is a valuable means of ensuring that these are not overlooked but are programmed into future work for resolution and amendment of best practice or standards necessary. The work is tackled in order of risk reduction potential.

## LOCAL RISK ASSESSMENTS

Our efforts are now concentrated on the local risk assessments which will apply the user safety plan to what actually occurs on individual waterways. and capture the knowledge and experience of local staff. A programme of training is being developed which will concentrate on:

• Briefing all staff on the BW user safety programme, why it is important? And why it is essential to capture local knowledge and experience?
• Stressing the importance of viewing the waterways from the eyes of the, often inexperienced, user.
• The concept of acceptable levels of risk and the need to take stock of the overall risk picture before deciding on risk control programmes.
• Introducing risk assessment methods which are as free as possible and do not constrain the assessor.

The programme of local assessments will be designed to address the likely high risk areas first.

## THE FUTURE

For the future we are looking forward to developing the user safety plan and to planning and carrying out work to resolve outstanding issues. We will continue to evaluate and use software tools where there use can be justified and give us a better understanding of our risk exposure. We have found that work carried out elsewhere has been of great use to us and we are keen to co-operate with others in similar areas of activity.

# MANAGING VISITOR SAFETY

*Sue Cowlin*

*Health and Safety Executive*

I have worked in the Local Authorities and Entertainment Services National Interest Group (NIG), based in Preston, for the last eight years. Our main objectives are to establish and maintain a forward looking strategy for dealing with industries whilst ensuring consistency in enforcement. We facilitate discussion between HSE (and other Government Departments) and the industry either by tripartite, formal, Joint Advisory Committees or by more informal contact. Government departments do not work in splendid isolation, contrary to common thinking! Considerable resources are put into joint initiatives with professionals and organisations of standing in industry, e.g. ROSPA, ILAM, NPFA, The Sports Council, CADW, RLSS, to name but a few. The Departments of National Heritage, Education, Transport are all involved, more latterly in connection with deregulation and CEN standards. DNH you may know has the government lead on sport and play and, of course, heritage matters—tourism and leisure are very much at the heart of their remit.

Until 1989 the NIG had responsibility for all entertainment services. However, in 1989, the 'Health and Safety (Enforcing Authority) Regulations' came into being. These allocated some work to local authority environmental health inspectors (the split is as shown in Annex 1). The Local Authorities Unit (LAU) was established with HSE (dealing with LAs as 'enforcers' not as 'employers'). The idea was to establish a type of NIG/policy section to support LA work. It was also a useful mechanism through which to transfer expertise from the existing NIG.

It would be easy to underestimate the economic significance of leisure. 'Leisure' encompasses everything from the UK's heritage in museums to informal play and recreation areas. According to the Cabinet Office's 'Technology Foresight', leisure, including the mass media, employs 1.4 million people in the UK, involving 19% of companies, with a turnover of £80 billion. The risks associated with the wide ranging activities are many and it is therefore important not to take any generic assessment at face value. The routine tasks of the undertaking and their potential effect on visitors should not be forgotten. The potential effect on visitors from such things as the use of pesticides or site transport should not be underestimated.

## THE ROLE OF THE LEGISLATOR

Before we jump into the 'role of the legislator' it is important to examine what law might apply in the sort of environment we are here to discuss. It is worth reminding ourselves that not all

leisure is 'regulated'. Inspectors are discouraged from standing at the bases of mountains, trying to control the activities of Sunday walkers and mountain climbers! That is not what s3 of the Health and Safety at Work Act 1974 is all about. The Act and its offspring regulations were intended to tackle risks associated with business and industry. For example, reporting of accidents to members of the public is only recognised where injury arises "out of or in connection with work". A review of sections 3 and 4 of the Act is currently being undertaken in the light of legal precedent and in the context of recent incidents involving members of the public. Though serious injuries and fatalities associated with leisure and recreation are small it is an area of HSE's work that attracts a great deal of ministerial and public interest. Reasonably behaved people quite rightly expect an afternoon of leisure to be uninterrupted by a visit to the hospital. Fatalities are relatively modest in number but the Bradford fire, Hillsborough, the Marchioness, Lyme Bay and other incidents have demonstrated the very serious consequences when safety measures go wrong. It is easy then for a low hazard situation to become a high risk one, with devastating consequences. Where clear open pastureland is turned to alternative uses such as concessionary boating lakes or to pop concert venues etc. the risks associated with the alternative uses should be carefully assessed and controlled.

We know that many accidents to members of the public go unreported. Management are either unaware that an accident has occurred, they are unclear about the reportability or they simply do not report the incident. Despite the lack of good statistical data we do have good anecdotal information from investigating inspectors reports about the underlying causes of these accidents. Reports of investigations carried out between 1986 and 1995 reveal that in just over half (52%) of the cases management control over health and safety was lacking. This took many forms, from failure to assess or foresee risks and taking steps to control them, to lack of maintenance and to inadequate provision of information to users and visitors. None of the accidents were esoteric or difficult to assess or envisage. There were simply routine failures—not getting round to doing something when the risks were obvious and remedies available. In 22% of cases, third party factors such as vandalism or lack of parental control were cited as the cause. In 18% of cases the poor condition of means of access was cited.

There was a day when an inspector would visit premises and subsequently send a list of 'do's' and 'don'ts', taking enforcement action when necessary and that would generally be the end of it for another four or five years. What was implicit in this but perhaps not made explicit was any underlying failure to properly manage risk. Those days are now gone. Inspectors will be assessing management, they will want to know whether there are *effective* policies; how you organise for health and safety; how you plan and what these plans are; how you measure performance in health and safety and what arrangements you have for audit and review (Annex 2). Whilst the role of the regulator has not changed there has been a shift to an emphasis on management responsibilities in order to secure, we feel, a longer term commitment to maintaining good standards. It is relevant here to mention the 'Management of Health and Safety at Work Regulations 1992' (MHSWR). You will no doubt be aware of HSE's publication, 'Successful

Health and Safety Management' (HS(G)65). The focus undoubtedly will be on 'competence'. There is a requirement in the MHSW Regulations to have competent health and safety assistance (Reg. 6). Routinely employers have interpreted this requirement as 'jobs for the boys'—safety professionals, but health and safety competence is necessary throughout the line management structure and prosecutions have followed where managers have not been properly trained. It is this competence that inspectors will test when visiting.

ANNEX 1

SCHEDULE 1

Regulation 3(1)

MAIN ACTIVITIES WHICH DETERMINE WHETHER LOCAL AUTHORITIES WILL BE ENFORCING AUTHORITIES

1. The sale or storage of goods for retail or wholesale distribution except:

- where it is part of the business of a transport undertaking;
- at container depots where the main activity is the storage of goods in the course of transit to or from dock premises, an airport or a railway;
- where the main activity is the sale or storage for wholesale distribution of any dangerous substance;
- where the main activity is the sale or storage of water or sewage or their by-products or natural or town gas;

and for the purpose of this paragraph where the main activity carried on in premises is the sale and fitting of motor car tyres, exhausts, windscreens or sunroofs the main activity shall be deemed to be the sale of goods

2. The display or demonstration of goods at an exhibition for the purposes of offer or advertisement of sale.

3. Office activities.

4. Catering services.

5. The provision of permanent or temporary residential accommodation including the provision of a site for caravans or campers.

6. Consumer services provided in a shop except dry cleaning or radio and television repairs, and in this paragraph "consumer services" means services of a type ordinarily supplied to persons who receive them otherwise than in the course of a trade, business or other undertaking carried on by them (whether for profit or not).

7. Cleaning (wet or dry) in coin operated units in launderettes and similar premises.

8. The use of a bath, sauna or solarium, massaging, hair transplanting, skin piercing, manicuring or other cosmetic services and therapeutic treatments, except where they are carried out under the supervision or control of a registered medical practitioner, a dentist registered under the Dentists' Act 1984(a), a physiotherapist, an osteopath or a chiropractor.

9. The practice or presentation of the arts, sports, games, entertainment or other cultural or recreational activities except where carried on in a museum, art gallery or theatre of where the main activity is the exhibition of a cave to the public.

10. The hiring out of pleasure craft for use on inland waters.

11. The care, treatment, accommodation or exhibition of animals, birds or other creatures, except where the main activity is horse breeding or horse training at a stable, or is an agricultural activity or veterinary surgery.

12. The activities of an undertaker, except where the main activity is embalming or the making of coffins.

13. Church worship or religious meetings.

SCHEDULE 2

Regulation 4(5) (b)

## ACTIVITIES IN RESPECT OF WHICH THE HEALTH AND SAFETY EXECUTIVE IS THE ENFORCING AUTHORITY

1. Any activity in a mine or quarry other than a quarry in respect of which notice of abandonment has been given under Section 139(2) of the Mines and Quarries Act 1954.

2. Any activity in a fairground.

3. Any activity in premises occupied by a radio, television or film undertaking in which the activity of broadcasting, recording or filming is carried on, and the activity of broadcasting, recording or filming wherever carried on, and for this purpose "film" includes video.

4. The following activities carried on at any premises by persons who do not normally work in the premises:

- construction work if:

  a) Section 127(6) of the Factories Act 1961 (which requires certain work to be notified to an inspector) applied to such work; or

  b) the whole of part of the work contracted to be undertaken by the contractor at the premises is to the external fabric or other external part of a building or structure; or

  c) it is carried out in a physically segregated area of the premises, the activities normally carried out in that area have been suspended for the purpose of enabling the construction work to be carried out, the contractor has authority to exclude from that area person who are not attending in connection with the carrying out of the work and the work is not the maintenance of insulation of pipes, boilers or other parts of heating or water systems or its removal from them;

- the installation, maintenance or repair of any gas system, or any work in relation to a gas fitting;

- work with ionising radiations except work in one or more of the categories set out in schedule 3 to the Ionising Radiations Regulations 1985.

5. The use of ionising radiations for medical exposure (within the meaning of Regulation 2(1) of the Ionising Radiations Regulations 1985)

6. Any activity in premises occupied by a radiography undertaking in which there is carried on any work with ionising radiations.

7. Agricultural activities, and any activity at an agricultural show which involves the handling of livestock or the working of agricultural equipment.

8. Any activity on board a sea-going ship.

9. Any activity in relation to a ski slope, ski lift, ski tow or cable car.

10. Fish, maggot and game breeding except in a zoo.

## ANNEX 2

## SUMMARY

Organisations achieving success in health and safety create and sustain a culture which secures the motivation and involvement of all members of the organisation and the control of risks. This leads them to establish, operate and maintain structures and systems which aim at:

1. Securing control by:

- managers who lead by example

- clear allocation of responsibilities for policy formulation and development; for planning and reviewing health and safety activities; for the implementation of plans; and for reporting on performance:

- the allocation of health and safety responsibilities to line managers with specialists acting as advisors;

- the allocation of health and safety responsibilities to people with the necessary authority and competence who are given the time and resources to carry out their duties effectively;

- ensuring that individuals are held accountable for their health and safety responsibilities and are motivated by systems of target setting and positive reinforcement;

- the provision of adequate supervision, instruction and guidance;

- payment and reward systems which avoid conflict between achieving output targets and health and safety requirements;

2. encouraging **co-operation** of employees and safety representatives by:

- involving them in policy formulation and development and in planning, implementing, measuring, auditing and reviewing performance;

- making arrangements for involvement at the operational level to supplement more formal participative arrangements;

3. securing effective **communication** by means of visible behaviour, written material and face-to-face discussion;

4. ensuring **competence** through recruitment, selection, placement, transfer and training and the provision of adequate specialist advice.

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# VISITOR RISK MANAGEMENT
# TRANSLATING THEORY INTO PRACTICE

*Jennie Sparkes*

*Parks Canada*

Visitor risk management is a framework for managing public safety. It draws upon the principles of risk management (a facet of business) and visitor management (a client orientated approach to managing park visitors). The merger of these two fields is an innovation.

Visitor Risk Management has been developed to address the challenges that are facing our public safety strategy. These challenges include:

- an increase in visits;
- diversification of recreational activities;
- recreational technological advances;
- an ageing park infrastructure;
- an increase in liability claims within Canada;
- the prospect of charging for access; and
- a decrease in staff and funding available to manage our public safety strategy

The only thing that has not changed is our responsibility as prudent land managers to provide a reasonably safe environment for the public.

In 1990 Parks Canada recognised that the public safety resources needed to be better rationalised to successfully compete for dwindling resources. We also recognised that the levels of public safety we provide needed to be appropriate and rational to provide better defence for ourselves in the event of litigation; and that the existing levels of public safety services needed to be examined for opportunities to deliver the service in the most cost effective manner possible without compromising effectiveness.

Addressing these needs required a shift in how public safety was managed within Parks Canada. Traditionally public safety has been considered an element of natural resource management; primarily because many of our hazards are inherent in the natural environments we preserve. Traditionally public safety was also a task overseen almost exclusively by Park Wardens. The rationale for public safety being the Park Warden's responsibility is rooted in the fact that Park Wardens are our 'natural' resource managers and that they have overseen search and rescue initiatives.

Visitor risk management expands upon these traditional views to formally recognise that hazards, natural or not, only present a risk when the 'people factor' is calculated in. Therefore public safety is not a resource management issue, but a visitor management issue.

Also, while Park Wardens have gained immense knowledge and respect in the area of search and rescue, visitor safety is not solely the responsibility of Park Wardens; all staff play an important role in ensuring the safety of visitors and visitors themselves play the key role in ensuring their own personal safety.

With the recognition that public safety is a visitor management issue, it became very clear that Parks Canada needed to know more about the people that visit heritage areas and especially about the people that became 'victims'.

This analysis on recreational activity is referred to as Risk Management. A cross section of field staff are brought together to undertake the risk assessment and ultimately oversee the implementation and monitoring of a public safety programme. This team is made up of visitor activities staff, resource conservation staff, and general work staff. The first exercise of the team is to identify which of the 40 recreational activities that we allow within Protected Heritage Areas occurs upon their own site.

The Risk Assessment is a combination of staff 'brainstorming', review of past incidents, and site visits to identify public safety issues. In identifying issues factors such as what activity the victim was participating in at the time of the incident; the location of the incident; characteristics of the victim; factors leading to the incident; and risk control measures in place are inventoried. The Risk Assessment also acknowledges that there are three basic categories of hazards:

- Environmental: hazards naturally inherent in the environment, such as cliffs, wild animals, or historic sites;
- Infrastructure: hazards associated with built facilities or services provided such as trails, buildings, signage and brochures; and
- Human Character: hazards inherent in the behaviour of the client such as use of drugs or alcohol; level of preparedness; age; or group dynamics.

The Risk Assessment information is used to identify strengths and weaknesses within the existing safety strategy and to set a foundation for rationalising risk control measures. To prioritise which risk issues warrant resourcing the factors of the probability of an incident reoccurring in the same, or similar, setting; the potential severity of the incident, should it occur, and the likelihood a visitor would be aware of the risk associated with a particular activity or location hazard. are all reviewed.

Risk Assessment becomes the basis of all decisions related to the level of public safety service provided. In the next step, the Visitor Risk Management Team reviews the risk control measures that already exist, such as signage, rails and search and rescue services. The measures are reviewed to:

- evaluate their appropriateness for the client they are expected to serve;
- ensure that the measure is being delivered in the most effective and efficient means possible;
- identify the opportunities for partnerships and revenue generation.

During the evaluation process new risk control measures will emerge. The detailed examination of these issues may result in decisions in terms of risk control objectives, levels of service, service priorities, and action. These actions may include things such as;

- providing a new safety service of rails next to steep cliffs frequented by school groups;
- reallocating resources from a measure which manages a lower priority risk to a higher priority risk;
- prohibiting an activity in a particular area; or
- providing the opportunity to have volunteer 'Friends' agencies deliver certain types of prevention programs or messages.

In 1993, PHQ worked closely with staff at Banff National Park and a Risk Management Consultant to undertake the first field test of Visitor Risk Management. The purpose of the exercise was two-fold; firstly, to produce a Public Safety Plan for Banff National Park; and secondly, to refine the suggested Visitor Risk Management process.

At the on-set of the exercise we established a set of guiding principles for the development of the Public Safety Plan. Both the Banff Plan and the Guiding Principles can be considered innovations. These guidelines covered the need to:

- share the responsibility amongst all groups and staff;
- support other park objectives such as cultural integrity, environmental sustainability and enhanced visitor experience;
- share risk and hazard information amongst all groups to ensure a complete understanding of risk by all staff and the public;
- work with others outside the park service through partnerships in preventing and responding to incidents;
- thoroughly understand all the factors that lead to incidents thus ensuring the implementation of effective and practical solutions;
- practise due diligence by examining all risk issues through a structured process; and
- support cost-effective solutions for long-term effectiveness.

The resulting Banff Safety Plan, based on these principles, provides the Banff public safety programme with the following innovations:

• A framework for making public safety decisions. This process outlines how issues will be managed, what will be considered in the process, and by whom. This framework will provide consistency in how issues are addressed and become a record for the disposition of all issues.
• An overview of risks. This accounts for what percentage of the total visiting public is involved in different types of incidents. It also highlights which activities result in the most frequent incidents; where they occur; and characteristics of clients and victims.
• A detailed analysis of activities. This takes each of the activities that have resulted in incidents and undertakes a detailed analysis of the associated risks; hazards; types of injuries; victims; hot spots; existing risk control; and outstanding issues to be resolved.
• A list of issues to be resolved. This list summarises and prioritises all the risk issues that will be delivered to the public, and outlines service objectives. Also outlined are revenue generation and partnership opportunities.
• Multi-Year Operational Planning. This summarises staff and funding required to resource the stated levels of service. It outlines annual expenditure and estimated revenue generation.

This process was further refined in the autumn of 1994 through a second field test on the Avalon Peninsula in Newfoundland with the focus of a group of 5 Historic Sites.

A third field test is about to commence in September 1995 at Pukaskwa National Park in Northern Ontario. During this field test the 'Risk Control Spectrum' will be used as a tool to assist in the definition of appropriate levels of safety services. The concept of the risk control spectrum is rooted in the work done by the United States Forest Service in developing the 'Recreation Opportunity Spectrum'. The risk control spectrum is designed to be applied on a site-by-site basis. It represents a spectrum of recreational settings for visitors based on facility and information availability and self-reliance. The results of this field exercise will be available in the spring of 1996.

The following are a number of references associated with visitor risk management:

- Visitor Risk Management Manual
- The Visitor Risk Management Handbook: Guidelines for Visitor Safety Planning, 1994
- The Public Safety Plan, Banff National Park, 1994
- The Public Safety Plan, Avalon Peninsula, 1995
- Allowable outdoor Recreation Activity Profiles: A Tool for Visitor Risk Management, 1994
- Risk Control Spectrum (draft), 1994
- Visitor Self-Reliance Programming Terms of Reference, 1994
- Visitor activity Management Process, 1986

If you would like further information on any of these initiatives please contact Jennie Sparkes or Per Nilsen.

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# *Programme*

| | | |
|---|---|---|
| 1015 | Welcome | **Richard Broadhurst** *Chairman, CRN* |
| 1025 | Round table introductions | |
| 1040 | Why is visitor safety important? | **Dr David Ball**<br>*Centre for Environmental Risk Assessment*<br>*University of East Anglia* |
| 1110 | Managing visitor safety – best practice around the UK: | |
| | **Forestry Commission**<br>Risk assessment – terms and definitions | **Emily Ramsay** *Health & Safety Officer* |
| | **British Waterways**<br>An approach to user safety | **Mike Barrett** *Chief Safety Engineer* |
| | **National Rivers Authority**<br>Visitor safety on coastal defences, and a policy for fencing and signing | **Pat Parkinson** *Head of Health & Safety* |
| | **National Trust**<br>National Trust visitor safety, property audit & risk assessment | **Andrea Beddows** *Coast & Countryside Adviser* |
| 1230 | Discussion | |
| 1300 | Lunch | |
| 1345 | The role of the regulator: the Health and Safety Executive | **Sue Cowlin**<br>*HM Inspector*<br>*Health and Safety Executive* |
| 1400 | Lessons from Parcs Canada | **Jennie Sparkes**<br>*Visitor Risk Management Coordinator*<br>*Parcs Canada* |
| 1445 | Round table discussions, questions and key conclusions | |
| 1500 | Report back | |
| 1530 | Close | |

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Countryside Consultancy

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Centre for Environmental Risk Assessment
University of East Anglia

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Countryside Officer
Rotherham Metropolitan Borough Council

**Mike Barrett**
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