

Managing inland waterway safety risks: A good practice guide for navigation authorities



Foreword

This good practice guide discusses the reasons and motivations for managing risk to users of Britain's inland waterways. A key message to promote is that risk assessment should not be feared. Rather, it is a simple way of setting out the judgement of industry professionals and should, therefore, be regarded in a positive light as it helps greatly with directing available resources to best effect.

There is no single 'correct' way of performing a risk assessment. It is important that each navigation authority institutes methods that suit its own organisation and this guide is designed to help achieve this. However, assessing and controlling risk is not just something for the navigation authority to be concerned about – users and other stakeholders should also be involved and AINA encourages all navigation authorities to take a lead in building partnerships to address users' safety. Occasionally, accidents and incidents do occur. When they do it is vital that navigation authorities investigate causes and learn lessons in order to inform their risk assessments and help to avoid recurrences. Simple and concise

guidance on incident reporting and investigation is also presented in this document.

AINA intends to supplement this document with further guidance in the form of workshops, the issue of software for incident reporting and investigation and, by agreement, the development of bespoke procedures for individual navigations.



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Chairman

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About AINA

The Association of Inland Navigation Authorities (AINA) was set up in December 1996 with strong encouragement from Government to provide, for the first time ever, a single voice on waterway management issues. The broad purpose of AINA is to facilitate the management, maintenance and development of the inland waterways for navigation as an economic, environmental, recreational and social resource.

AINA has 29 members including the three large Government-sponsored navigation authorities – British Waterways, the Environment Agency, the Broads Authority – and also local authorities, drainage commissioners, property development companies, port authorities, original canal companies, national parks, the National Trust, and other charitable trusts.

Between them, AINA members own, operate and manage some 5,000 km of waterway representing almost a complete UK coverage. Each member has its own constitution, aims and objectives and, in many cases, Acts of Parliament regulating the operation of its waterways.

AINA's key objectives are to:

- provide a forum for the sharing of best practice, advice and expertise,
- represent the views of the Association to Government, EU, statutory agencies and other relevant bodies,
- develop links with its European neighbours,
- secure adequate investment in inland waterways,
- promote public awareness of the value and potential of inland waterways and gain support for their development and conservation,
- enhance the amenity and environmental quality of inland waterways,
- coordinate aspirations and plan in the context of a national strategy for exploiting the potential of inland waterways.

Contents	Page
1. Introduction	3
2. Why address user safety?	5
3. Basic principles	8
4. Planning for users' safety	9
5. Risk assessment and control	12
6. Accident reporting, recording and investigation	16

Appendices:

1. Members of the AINA project steering group	21
2. AINA project specification: Managing inland waterway safety risks	21
3. Case Law: Duty of Care under Occupiers' Liability Acts 1957 (OLA57) and 1984 (OLA84)	22
4. Visitor Safety in the Countryside: Guiding Principles	25
5. AINA User Safety Forms	29
• Assessment priority programme	29
• Site assessment/risk control report	30
• Programme of outstanding issues and controls	31
6. AINA Incident Report form	32
7. AINA Incident Investigation Report form	33

1. Introduction

- 1.1 Risk has been and always will be an important and essential part of everyday life. Each day we make judgements which balance desired goals or benefits against the chance that something undesirable (a risk) will happen on the way to achieving these objectives. These judgements can range from the mundane (Do I really need to carry an umbrella today?) through the routine (Shall I cross this busy road now?), and to the very specific (I want to take up mountain walking, but do I have the skills and equipment to control the risk?).
- 1.2 For all the large range of risks experienced in our lives we have become more aware in recent years that with some planning and forethought it is possible to enjoy the benefits of activities without having to take the chances that were the norm only a few years ago. Put another way, we are now much better at recognising and controlling risk. This applies especially to recreational activities. So for example, participation in water sports now appeals to more participants as people have perceived that the chances of major injury have reduced through improved design and availability of craft, equipment and training. This changed perception has also led to the risks associated with water sports and recreation being more acceptable to society at large.
- 1.3 The examples mentioned above apply to cases where the control of the risk and decisions whether to participate are largely in the hands of the individual. However, many activities in our increasingly complex society are not entirely in the control of individual. We frequently rely on organisations to manage risks on our behalf and increasingly have come to expect risks to be managed for us down to ever-lower levels, hence increasing the perceived level of safety. As a society we are becoming increasingly intolerant to having risks (whether real or imagined) imposed upon us.
- 1.4 Reducing or avoiding risk usually comes at a cost which can be expressed, not only in monetary terms, but also in terms of loss of amenity (perhaps caused by over-zealous application of safety controls), restrictions of access (risk avoidance by barring access), and denial of opportunity (by setting pre-conditions such as qualifications).
- 1.5 The uses of inland waterways are subject to these trends and changes just as much as any other activity in every day life be it travelling to work by train, adventure holidays, sports, or any other recreational activity.
- 1.6 The tragic loss of life on the Marchioness river boat in 1989 led first to the 1992 Hayes Report into river safety and subsequently to the 1999 Thames Safety Inquiry (TSI) held by Lord Justice Clarke. Whilst the Inquiry was confined to the tidal Thames in London, Lord Justice Clarke drew attention to the relevance of a number of his 46 safety recommendations to other inland waters in the UK. The TSI, together with a number of drownings in the Capital and elsewhere on the inland waterway system, led to the Government's study *Inland Water Safety: Roles and Responsibilities*¹ which it is hoped will lead to a re-focussing of current industry efforts to define best practice and to understand better, and learn from, the accidents and incidents which occur. Other pressures have come from the increasing interest taken by the main regulators (Health and Safety Executive, and the Maritime and Coastguard Agency), from the European Union (especially on craft standards), and from the increasing tendency of 'victims' of accidents to seek compensation.
- 1.7 These challenges are very real and need to be addressed, but it is important to approach them positively and to regard them as providing opportunities to promote and sustain inland waterways as a shared, sustainable resource for a variety of leisure and recreational activities, in particular for use as navigations. By doing so, the further and wider potential of inland waterways for assisting urban and rural regeneration, tourism and commercial activities, the conservation of the natural environment and built heritage, transport and freight, water resources and other uses can be realised.
- 1.8 AINA recognises the trends and pressures outlined above and the need for navigation authorities to be able to present a consistent approach to their management. AINA is committed to sharing data on accidents and incidents amongst its members. This guidance document demonstrates the commitment and provides navigation authorities with practical approaches to sharing best practice in user risk management.
- 1.9 AINA is grateful to the Department for Environment, Food and Rural Affairs (DEFRA) for its support for the AINA research project from which this document is the principal output. The project was overseen by a steering group, the membership of which and its terms of reference are given in Appendices 1 and 2 respectively.

¹Inland Water Safety: Roles and Responsibilities, Department for Transport, Local Government and the Regions, July 2001.

1.10 The issue of this document to AINA members will be followed-up with a practical workshop designed to tailor the best practice it contains to the specific circumstances of individual navigation authorities, taking into account types and numbers of users and the availability of resources. Further follow-up support to AINA members on-site will be provided by agreement. Following implementation of the best practice guidance by navigation authorities AINA will develop and maintain a centralised nation-wide data base of accidents and incidents to be used as the basis for analysing trends, amending management practices and for further research.

1.11 The guidance in this document is structured as follows:

Section 2 discusses why user risk management is a topic that navigation authorities need to deal with.

Section 3 discusses the application and relevance to inland waterways of the 'Guiding Principles' produced by the Visitor Safety in the Countryside Group.

Section 4 discusses the planning and management issues vital to successful user risk management.

Section 5 reviews the experience of some AINA members in user risk management and control and suggests ways in which other navigation authorities could take these issues forward.

Section 6 discusses the essentials of accident and incident reporting and investigation and identifies the core elements which navigation authorities should adopt.

1.12 It should be noted that throughout this document the term 'user' is taken as meaning anyone not employed by the navigation authority (on a paid basis or as a volunteer) who either visits a waterway for pleasure or work, or for whom it forms part of their everyday environment.

2. Why address user safety?

2.1 There are several reasons why navigation authorities should take a positive and proactive approach to managing user safety:

The legal framework

2.2 The legal status of the various navigation authorities differs greatly. AINA Members include the three large government-sponsored authorities – British Waterways, the Environment Agency, the Broads Authority – and also local authorities, drainage commissioners, property development companies, port authorities, original waterway companies, national parks, the National Trust and other charitable trusts. The law, as applied to these very different types of organisations, can be divided into two types - criminal and civil.

2.3 The principal piece of legislation concerning **criminal law** is the Health and Safety at Work Act 1974 (HSW Act). The Act has far reaching implications for user risk management. The essence of the Act is that employers have a duty to identify and control risks 'so far as is reasonably practicable'. Although the main target of the Act is safety of employees, it also requires an employer to conduct his/her undertaking in such a way as to ensure, so far as is reasonably practicable, the health and safety of persons who are not his/her employees. This includes members of the public.

2.4 Case law has established that the definition of an 'undertaking' is extremely wide and could easily encompass the control of property, including water spaces, by a navigation authority and all the activities on it.

2.5 The term 'employer' is generally accepted as anyone who employs someone under a contract of employment and would include navigation authorities regardless of their constitutional status, size and resources. In short, there is no escaping or avoiding the implications of the HSW Act for any navigation authority.

2.6 The HSW Act gives the Secretary of State the power to make health and safety regulations. Both the Act and the regulations made under it are enforced by the Health and Safety Executive (HSE). Certain accidents to members of the public are reportable to HSE under "RIDDOR" regulations (see Section 6 for more details). If members of the public complain about the activities of an 'employer', HSE is obliged to follow up these complaints. These investigations are likely to focus on the way the managing organisation identifies and manages risk. Whilst it might

be dangerous to generalise, HSE inspectors usually do not automatically find the organisation at fault just because an accident has happened. Rather, they will be looking for evidence of a 'safety culture', whether the accident could have been foreseen, and whether the organisation did what was reasonably practicable to reduce the likelihood of it happening. The fact that an accident has happened tends to lead to questions about the adequacy of the organisations health and safety systems.

2.7 Sanctions available to HSE include the issue of Improvement and Prohibition Notices. Courts can impose unlimited fines and in extreme cases, sentences of imprisonment. The HSW Act also states that where an offence is committed with the "consent, connivance or neglect of any director, manager, secretary or other similar officer", that person will be guilty of an offence along with the organisation. Where incidents result in fatalities initial investigations will be undertaken by the police and there is a possibility that manslaughter charges could be brought against individuals. Although this is still rare, it did happen after the Lyme Bay canoeing tragedy where both the company and its director were convicted of manslaughter. Proposals to ease the prosecution of companies, the so-called 'corporate killing' legislation, remain the subject of discussion but may soon become the subject of a new statute.

2.8 It is also important to stress that responsibilities under criminal law cannot be transferred to others (such as contractors) by contractual terms.

2.9 Most of the legal cases encountered by navigation authorities are brought under **civil law**. These cases are generally brought on the basis that the defendant has failed to act reasonably in discharging a duty of care to the user. These claims are often made under the common law of negligence and require a lesser standard of proof than cases under criminal law.

2.10 The Occupiers Liability Acts 1957 and 1984 (OLA) deal specifically with the duty of care owed by occupiers of premises to their visitors. An "occupier" for these purposes could be a navigation authority and the "premises" in question could be defined as "property" which many interpret as including water. The duty of care under OLA is owed to both lawful visitors and trespassers. In the event of an accident the occupier will need to demonstrate that its actions were reasonable in the circumstances.

Case study on 'voluntary acceptance' – Hardwick Hall

Hardwick Hall is a large country park owned by the National Trust and is a major attraction for a large urban population. The park contains a number of ponds roughly square in shape and about 20 metres across and two metres in depth. A family were on a day out and the father entered the water and was seen 'bobbing up and down' below the water to entertain his children. On one occasion he did not resurface. Despite the efforts of rescuers he died in hospital three days later.

The widow took action for compensation against the National Trust and the case eventually went to the Court of Appeal. The court found that the risks were 'obvious' and there was no duty on the National Trust to warn visitors. A warning sign would not have told visitors anything they should not already have known. The judgement developed the approach taken in the earlier Staples versus West Dorset District Council case.

2.11 There are many pieces of OLA case law relevant to navigation authorities. Some of these are listed in Appendix 3. Again, whilst it is difficult and sometimes dangerous to generalise, the following main conclusions can be drawn from these cases:

- Consider the particular needs of people invited onto your property (e.g. elderly or disabled).
- Be able to demonstrate that your precautions are reasonable.
- The historic nature of premises has a bearing on what is 'reasonable'.
- You are not necessarily required to warn of dangers when they are obvious (although the severity of the danger must be considered along with the risk of injury).
- Similarly, you don't necessarily have to fence hazards when the dangers are obvious.
- Children will be less careful than adults, and less able to understand signs. Parents and guardians have a responsibility for the children in their care.

2.12 There are no set penalties in civil cases. A claimant who successfully proves that a defendant has breached his duty of care will be awarded damages. Courts generally use previous cases as a guideline for the correct level of damages but, generally speaking, the more severe the injury, the higher the level of damages. The legal costs associated with making and defending against claims can also be considerable.

Managing increasing public expectations

2.13 As indicated in the introduction, the public is increasingly expectant of environments where risks have been 'managed out'. The inland waterways environment, in common with many other environments, is such that it is not possible to make them risk-free. Navigation authorities therefore need a way of identifying risks and then deciding on what controls, if any, are appropriate. These may require communication with users to impart awareness of those hazards that the authority cannot reasonably control themselves.

Managing resources

2.14 There is virtually no limit to the measures that a navigation authority could put in place, given the resources, to control user risk. Risk control programmes could take the form of major engineering works such as new bridges or rebuilt embankments, public information, schools awareness exercises, signs or barriers. Whether desirable or not, these can be costly to implement and resources can be severely limited. A structured approach to user risk management will help ensure that available resources are channelled to best effect, and that hasty, ill-considered reactions to particular events are avoided. Where resources can only permit the introduction of measures at some future date then risk management can help justify this phasing and show that all that is 'reasonably practicable' is being done. A good assessment of risk can also be a powerful tool when seeking additional sources of funding for projects where safety is an issue.

Balancing safety, heritage and the environment

2.15 Doing what is 'reasonably practicable' in terms of controlling risk involves taking a balanced judgement between the benefit in terms of reduced risk and the dis-benefit, usually expressed in terms of cost. In a waterways environment it is usual to find other types of dis-benefit, namely the protection and sustainability of the built and natural environment, each of which in turn is protected by its own legislation. Therefore, it is entirely possible to find these different sets of objectives each with its own legislation acting in conflict with each other. It is quite legitimate to take account of heritage and environment considerations when making the type of cost/benefit decision required by the HSW Act. There will however be occasions when the respective regulators will need to be engaged in the decision making process. The collective experience of the major navigation authorities shows that acceptable compromise can usually be reached. Good risk management processes are of considerable help in showing that the arguments have been considered in a consistent and rational way.

Keeping control when things go wrong

2.16 It is almost inevitable that sooner or later something will go wrong and a serious incident will occur. The more serious the event the greater will be the degree of external scrutiny given to the organisation's management arrangements. In extreme cases this can (and has in well-known instances outside the waterways environment) result in organisations losing control of their business when they appeared to have no grasp of the issues or the ability to deal with them. A sound approach to user risk management puts organisations in a much stronger position to be able to justify what it did (and perhaps more importantly, didn't do) to manage the events or circumstances leading up to the incident.

Business reasons

2.17 All navigation authorities are seeking to increase the resources available to them to maintain, improve, or develop the assets under their control for the public benefit. Inevitably this requires external stakeholders to become engaged, be they waterway users, local communities, funding agencies or government. They are far more likely to become engaged rather than isolated if they perceive that user safety is being managed in a consistent and professional manner rather than just a reaction to events.

Moral reasons

2.18 Finally, putting aside the, mainly practical, reasons given above, there is a strong moral case for user risk management. The waterways will always carry a degree of risk and as those with responsibilities for their management, maintenance and use, navigation authorities do not want to see people come to harm where such incidents could reasonably have been avoided.

3. Basic principles

3.1 This guidance document draws on the work carried out by the Visitor Safety in the Countryside Group (VSCG), in particular its 'Guiding Principles'. The work of VSCG has its origins in the management of the same type of user issues that navigation authorities need to deal with; indeed some of VSCG's founding members are also AINA members². Many of the characteristics of the visitor management task facing VSCG members will be familiar to navigation authorities:

- Encouragement of users
- Reconciling user needs with management of work sites
- Multiple access points
- Wide range of user activity, sometimes conflicting
- Extensive responsibility for land and property
- Limited resources
- Little or no direct supervision of user activity by staff
- Conflicting demands of conservation, natural and built environments, safety, heritage, open access.

3.2 It was the difficulties inherent in managing these conflicting pressures that brought VSCG together in order to share experience and to set up what amounts to industry best practice. This gives collective confidence in all its members' approaches to user risk management. It was quickly realised that VSCG needed to establish basic principles which would provide the foundation on which best practice could be agreed and applied. This led to the production of the Guiding Principles that all VSCG members have incorporated into their user risk management policies. The Guiding Principles and the work of VSCG have been further disseminated through seminars and, a publication and web-site are forthcoming.

3.3 In summary, the Principles are intended to enable members to comply with modern risk management requirements without adversely affecting the attraction that brings the visitor in the first place. This is done by recognising that all stakeholders have responsibilities and a role to play.

3.4 The Principles are summarised below and have been applied in formulating the best practice advice set out in this guide. The Principles are set out in full in Appendix 3 with the accompanying risk control matrix amended so as to be more directly applicable to inland waterways.

Fundamentals

- Take account of conservation, recreation and landscape objectives.
- As far as possible, avoid compromising people's sense of freedom and adventure.
- Avoid restrictions on access.

Awareness

- Ensure, as far as possible, that all risks are taken voluntarily.
- Inform and educate users about the nature and extent of hazards, the risk control measures in place, and the precautions which users themselves should take.

Partnership

- Recognise that people taking part in similar activities will accept different levels of risk.
- Recognise that risk control measures for one user group may create risks to others.
- Work with user groups to promote understanding and resolve conflict.

Responsibility

- It is important to strike a balance between user self-reliance and management intervention.
- It is reasonable to expect users to exercise responsibility for themselves.
- It is reasonable to expect users not to put others at risk.
- It is reasonable to expect parents, guardians and leaders to supervise people in their care.

Risk control

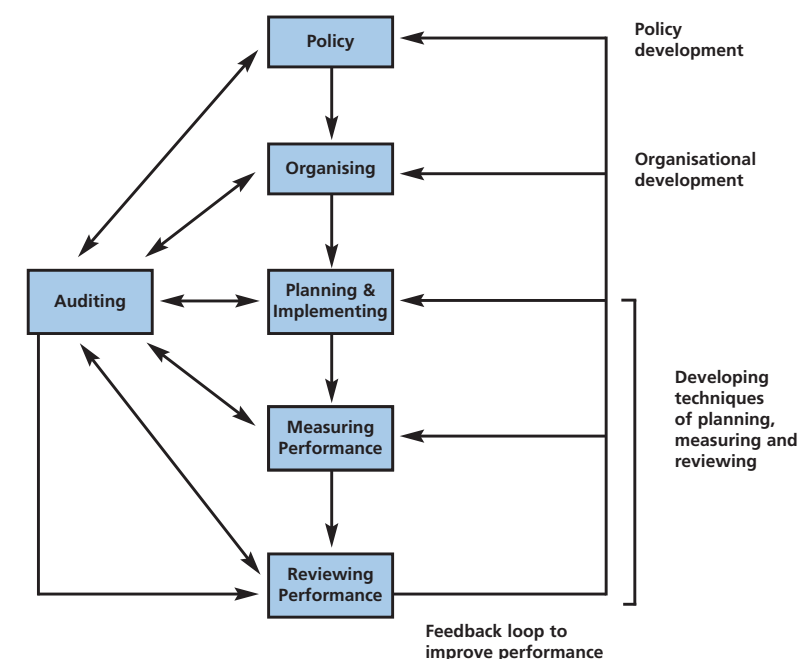
- Assess risks and develop safety plans for individual sites.
- Risk control measures should be consistent.
- Monitor the behaviour and experiences of users to review user safety plans
- Ensure work activities are undertaken to avoid exposing users to risk.

4. Planning for users' safety

4.1 As with most other things, successfully implementing user risk management is achieved most effectively and efficiently by the appropriate amount of pre-planning. What is 'appropriate' will very much depend on the scale of individual navigation authorities' undertakings and the resources available to them. Nevertheless, there are some basic steps to follow which navigation authorities can adapt to

suit their own circumstances. In general these follow the model set down by HSE in its document, *Successful Health and Safety Management*³ but with some adaptation to suit the particular circumstances of user risk management. The elements of the HSE model are shown in the Diagram 1. They follow well-established principles of business management.

Diagram 1. Key elements of successful health and safety management.



User safety plans

4.2 A safety plan is essential whatever the size of the navigation authority and resources available to it. Similarly, a clear management strategy and good planning are essential to achieving its objectives. Section 2 outlined the management motivation for managing user risks. In order to achieve these aims planning is required to:

- Demonstrate organisational commitment. The active and tangible support of senior management is required. It is highly unlikely that you will succeed without it. This must be the first objective.
- Identify resources. Be clear on what you can and can't do and who has responsibility.

• Direct available resources to best effect. Even in the larger national organisations resources are invariably limited and in competition with other objectives. Give priority to those schemes that are most cost-effective.

• Integrate user risk management with other policies and activities especially those for employee safety and environment. The basic principles of risk assessment apply to all areas of activity of a navigation authority. Safety should not be treated as an add-on. Rather, it is just one aspect of managing a waterway environment successfully.

²VSCG members are British Waterways, Countryside Management Association, English Heritage, English Nature, Environment Agency, Forestry Enterprise, National Parks, The National Trust, Royal Society for the Protection of Birds, Worcestershire County Council.

³Successful Health and Safety Management, Report HSG65, Health & Safety Executive, 1997.

Elements of a user safety plan

- 4.3 It is helpful in meeting the needs identified in Section 2 if a navigation authority's approach and arrangements for user safety can be set down in a 'User Safety Plan'. Naturally whether and how this is done will depend on the size of the navigation authority, its exposure to user risk, and the resources available. So the form of a User Safety Plan can vary from a purpose-written document to inclusion of the appropriate elements in the written health and safety policies required under the HSWA, as appropriate to the organisation.
- 4.4 The following criteria are taken from the Act:
- All organisations employing five or more people must have written safety policy statements that contain the following:
- a general statement of management philosophy,
 - details of the organisation (its responsibilities),
 - significant findings of risk assessments,
 - the arrangements in force to control the risks,
 - the signature of the most senior member of management,
 - the date of last revision.
- 4.5 Once in place, the organisation's safety policy statements serve as a bridge between health and safety management and the legal system. Regardless of size or responsibilities of the organisation a written safety policy assists compliance with statute law and can be used in evidence in civil claims.
- 4.6 Whatever is appropriate, organisations are advised to consider including the following elements in the user safety plan:
- Management structure*
- 4.7 This considers how the navigation authority is set up to deal with user safety issues. This should address all the interfaces and communication channels with users and all other stakeholders. It is in the nature of user risk management that there are many stakeholders with different perspectives and responsibilities. An open and inclusive approach is essential if a balanced response owned by all stakeholders is to be achieved.
- 4.8 Navigation authorities should consider carefully the breadth of their interests; these will not necessarily be aligned with strict legal responsibility. For example, it will not be

unusual for an authority to have responsibility only for regulating navigation and to have no responsibility for property beyond the water's edge other than, say, warning of unsafe structures. If the navigation authority wishes to promote the use of its waterway either directly or through the waterway's potential as a catalyst for waterside regeneration, then it needs to engage those stakeholders who do have this responsibility.

User profile

- 4.9 This is the navigation authority's knowledge about the make-up of its users and the activities undertaken. Good relationships with stakeholders, especially where there are groups representing users, can yield information of which the navigation authority would otherwise be unaware.

Accident data overview

- 4.10 Section 6 discusses the ways in which the collection of information on accidents and incidents poses special challenges compared with occupational risk, and then goes on to discuss collection and analysis from the potentially large range of data sources. This information should be used as far as possible to help develop a view on user risk. Depending how confident one is in this information, it could be used as a performance indicator, albeit a negative one.

Acceptability of risk

- 4.11 Navigation authorities with sufficient data on accidents and incidents can use these together with results of risk assessments to make comparisons with other business sectors (especially leisure and transport) and judgements against the criteria used by HSE for acceptability of risk. This can be very helpful in putting the risks associated with navigation and other leisure uses of the waterways into context with other activities commonly undertaken by society at large. However, it needs to be carried out with care if the results are not to be false or misleading. In addition to this guide AINA aims to help navigation authorities by building an industry-wide database of accidents and incidents. The data can also be helpful to authorities in putting their own risks into perspective.

Risk assessments

- 4.12 Section 5 discusses this topic in more detail. However, navigation authorities should be clear in their plans for undertaking risk assessments. Risk assessments should take account of the need for stakeholder involvement, the skills and knowledge of operational staff, and especially the understanding of risk from the perspective of the inexperienced user. Local knowledge and experience is usually the key to user risk management but there may be a need to consider some wider issues on a common basis.

Risk control

- 4.13 It is quite common for organisations to have developed sets of risk control measures dealing with specific activities or user needs. As well as physical measures such as barriers, these can also include communication strategies such as printed risk awareness material, education programmes, and signs. These are all candidates for specific mention in user safety plans. Paragraphs 5.6 to 5.9 give further guidance on this.

'Issues'

- 4.14 It is in the nature of user risk management that decisions on appropriate courses of action can be difficult and will require further information and investigation before a final view can be taken. It is perfectly valid to treat these investigations, or 'issues', as outstanding pieces of work in their own right, and to plan for their resolution accordingly.

Monitoring, audit and review

- 4.15 The need for these processes is similar to any other area of management. They provide the information by which progress against plans can be checked and problems identified and corrective action taken. They also provide management with the assurance that programmes are being implemented to plan, or, should this not be the case, that changes to strategies or resource allocation may be required.

Programmes and records

- 4.16 Regardless of whether a navigation authority intends to produce a written user safety plan, it is strongly recommended that formal records of the following items be made. User safety programmes take time to implement fully but written programmes and records can demonstrate achievements and commitment to future work. Navigation authorities should consider including the following:
- Programmes for carrying out risk assessments. These should be prioritised in order of the sites considered to pose the greatest risk. This is considered further in Section 5.
 - Where decisions have been made to implement risk control measures - be they 'hardware' such as barriers, or user awareness programmes - navigation authorities should show plans for when they are to be carried out and that resources have been allocated.
 - Where 'issues' are still being investigated before deciding on appropriate control measures, this still forms part of your continuing programme of work.
 - Records of assessments, reviews and implementation of risk controls.
- 4.17 All these items will be of significant help to navigation authorities in demonstrating (especially to safety regulators) that they are doing all that is reasonably practicable to manage user risks. They can also build confidence with other stakeholders.

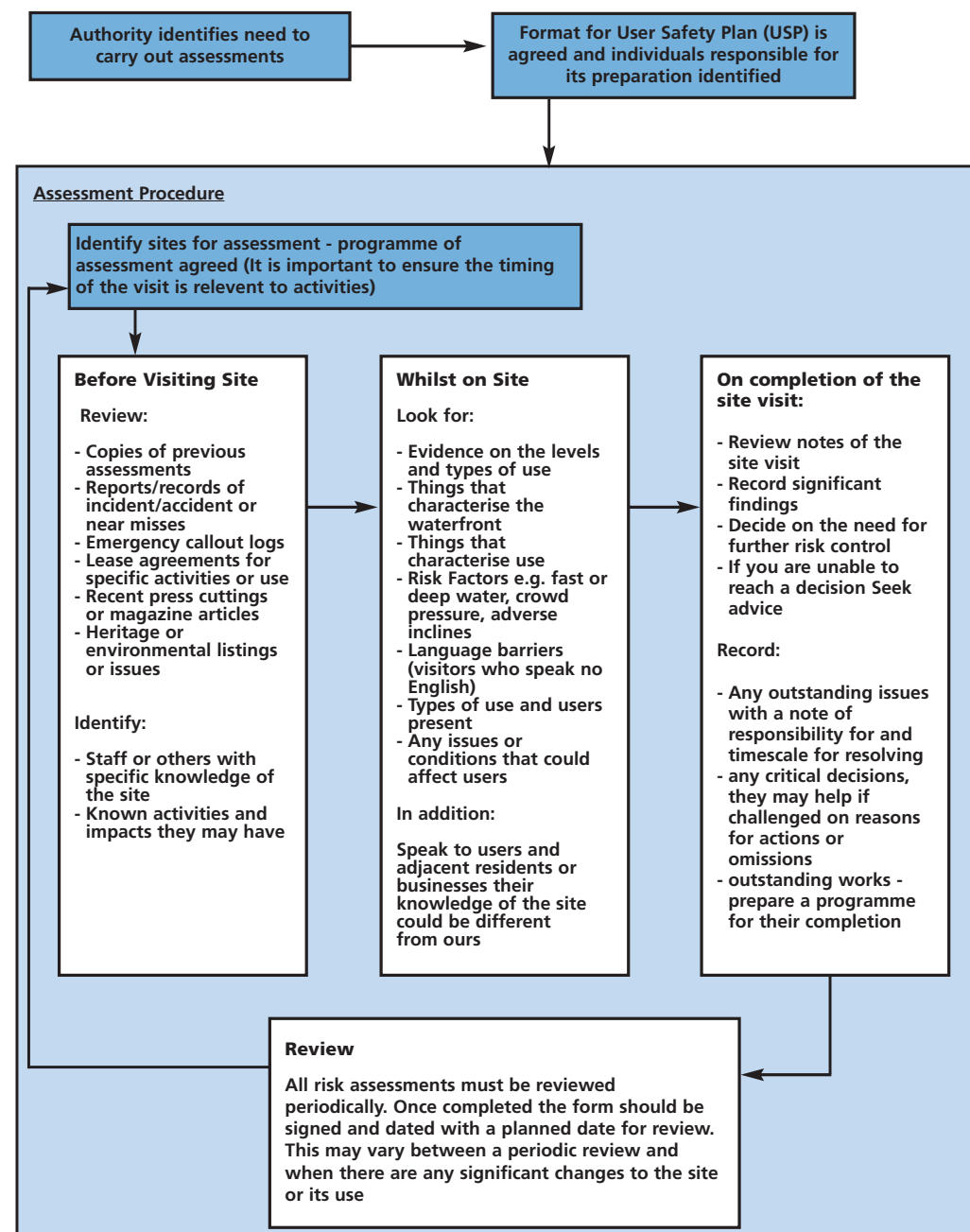
5. Risk assessment and control

- 5.1 The assessment of risk is a cornerstone of modern health and safety management. As stated in the introduction to this document the process of assessing risk and evaluating the need for risk control is an intuitive life skill. As navigation authorities, what we need to do is apply this basic skill in a more systematic way so that we can demonstrate to ourselves, our stakeholders, and to regulators that we have been thorough in the way we manage risk.
- 5.2 There is no prescribed 'easy' or 'best' methods to carry out risk assessments. To use the words from the HSE Management Regulations, the assessment must be 'suitable and sufficient'. Taken back to its basics the risk assessment process must use the essential elements of information, knowledge, and expert judgement available to identify those things that could cause harm, and how likely this harm is to come about. The elements are then used to reach judgements on appropriate risk controls. The role of the method is no more than to capture these essential elements of information, knowledge and expert judgement in a way that is helpful and constructive.
- 5.3 The method chosen must therefore suit the navigation authority. To help with this choice, this part of the guidance document looks at some of the key elements of the risk assessment and control process and how these could be adapted for application by individual navigation authorities.

What are the risks?

- 5.4 The first element of assessing risk is to identify those things that could lead to harm. It is suggested that this be done by considering the incidents that can reasonably be foreseen at particular locations, and then going on to consider what factors led up to the incident. Thus for example, it is foreseeable that at a particular lock site someone might fall into the lock through tripping up over a badly maintained coping, possibly resulting in that person being drowned.
- 5.5 The second element of risk is to estimate the likelihood of this happening. So, in the example in the previous paragraph it might be estimated that the drowning is extremely unlikely although people may have been known to have tripped and fallen into the lock but managed to get out. The assessor must then take a view on how significant this risk is. A simple method for capturing these judgements is given in Diagram 2 opposite.

Diagram 2. Planning and assessment flowchart



Deciding on appropriate risk controls

- 5.6 Unlike occupational safety where there is a wealth of information and guidance available, there is very little available on user safety to aid a navigation authority. Decisions on appropriate risk controls (if any) are therefore not easy. For this reason it is recommended that risk assessment (what are the risks now?) and risk control (What, if anything should we do about them?) are dealt with separately. To do otherwise may further confuse an already difficult process.
- 5.7 AINA is progressively preparing and promoting industry best practice. Examples include the application and use of Waterway Standards, and the Boat Safety Scheme, both of which incorporate good management practice with regard to safety. Where risk control measures are not obvious or cannot be implemented for some time it is perfectly reasonable to record these planned actions as the response to that risk. Risk assessment and control is a dynamic process!

- 5.8 Typical examples of risk control measures include:
- Installing lock ladders
 - Removing hazards likely to cause people to trip eg loose copings
 - Informing boaters of navigation hazards through cruising notes.
 - Fencing high-risk water control structures.
 - Painting bollards
 - Signs
 - Publicity programmes (e.g. leaflets etc.)
 - Education programmes

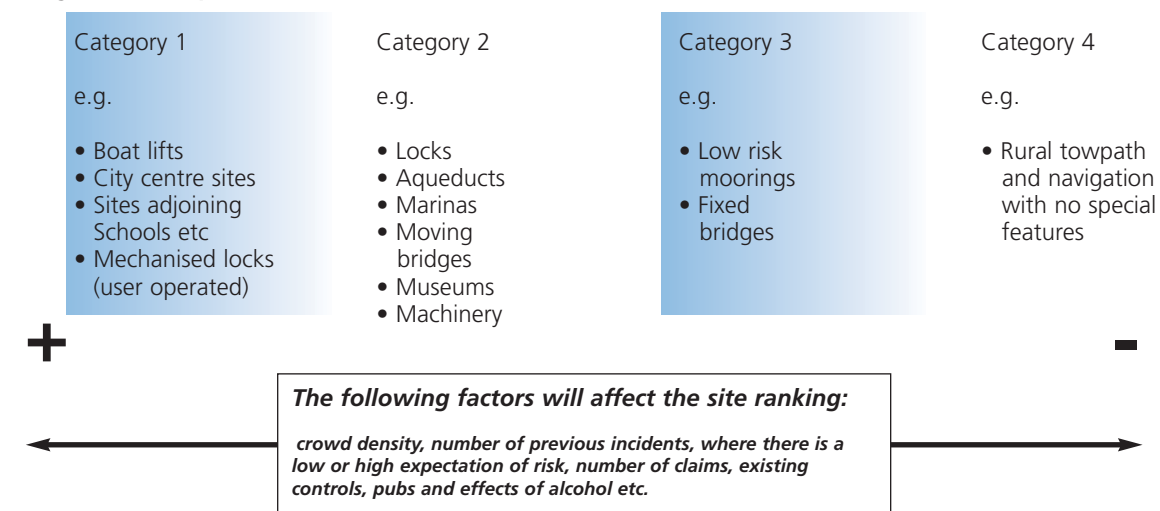
5.9 Risk controls need to be considered on a cost-benefit basis. That is, risk controls should not be introduced where the cost (in environment and amenity terms, not just money) exceeds the benefit. Again, there are no hard and fast rules for carrying this out.

However, the fact that, as navigation authorities, we have the expertise in this area adds considerable weight to our judgements. It should also be remembered that higher risks demand more expenditure before costs and benefits can be said to be in balance.

Which sites shall I look at first?

5.10 Risk assessments and decisions on risk control take time. Navigation authorities' areas and range of operation are usually large in comparison to the staff and other resources available to carry out these assessments. It is therefore necessary to prioritise the order in which the work is done. This should be based on accident/incident history, user numbers and areas where the duty of care to users is particularly high – at visitor centres or honey-pot sites for example. Above all, the judgement of the navigation authority as to where the biggest risks lie will shape the plan for completion. An example of a priority matrix applicable to navigation authorities is given in Diagram 3.

Diagram 3. Site prioritisation matrix



5.11 It is very important to remember that a single site may encompass any one or more of the assets identified above, however a site assessment should consider all those in the predefined site boundary.

Case Study – No risk controls required

A member of the public reported to the navigation authority that he had witnessed three incidents where unaccompanied young children playing near the water's edge had almost been swept into the water by the wash of passing boats. The individual demanded that the site be fenced to stop access.

The navigation authority noted the report and visited the site on several occasions. Information was gathered from boaters, walkers, anglers, and the owner of a shop on the site and a risk assessment was carried out to establish how often children were present, their behaviour, and the perceived problems with speeding boats. The assessor noted historical information on accidents on site and information on the site conditions, bank profile, water depth, and flow rates, in addition to observing the speed and wash of passing craft. The river edge was not considered to be hazardous as the grass was cut and the slowly sloping ground was even.

Discussions confirmed that the local authority was responsible for the site and that it had received no complaints about children or speeding boats. The outcome of the discussions and assessment allowed the navigation authority to record that speeding craft were not a problem. In addition, it was established that the site was rarely used by unaccompanied children. It became evident that the children that had been seen were from school parties and had wandered away from the main group; they were soon back with their classmates and teachers.

The navigation authority approached the local authority with the outcome of the assessment and a decision was taken to leave the site unaltered, but to agree dates by which to review the situation.

Case Study - Risk controls required

Following a drowning at a river weir the navigation authority were asked by the HSE to review the safety of the site for visitors. Local people had witnessed the tragedy and were asked for information. It was recorded that a child had wandered from a formal path over a mound of earth onto the weir side and had fallen over the unprotected headwall of the weir into the water.

The site inspection noted a fence was in place to form a viewing area and that this continued along the headwall. It was also noted that no life saving equipment was in position on site.

The investigation found that a "desire line" had been formed by preparatory work for major repairs to the weir. Dense undergrowth had been cleared ready for the works, which had not yet started due to river flooding. The investigation also revealed the navigation authority had been monitoring the loss and replacement of life saving equipment over the previous three months.

Weekly inspections had found the lifebuoys missing from site on all but one occasion despite them being replaced on each visit.

The outcome of the subsequent site assessment highlighted a need to provide a barrier to stop unauthorised access to the weir-side whilst maintaining the environmental value of the site.

It was decided to re-route the footpath away from the weir headwall and provide an additional viewing area upstream. The area adjacent to the weir was planted with dense thorns to stop access with a post/mesh fence in place to allow the natural barrier to become established. In addition warning signs and interpretation boards were installed for educational purposes. It was also agreed that the lifebuoys would be removed by the navigation authority as there was proven history of them being lost.

Records

5.13 In the event of an accident investigation by the regulators or a civil claim it is important to an effective defence that evidence is available to show that assessments have been done and that where appropriate, measures have been implemented or planned to control risk.

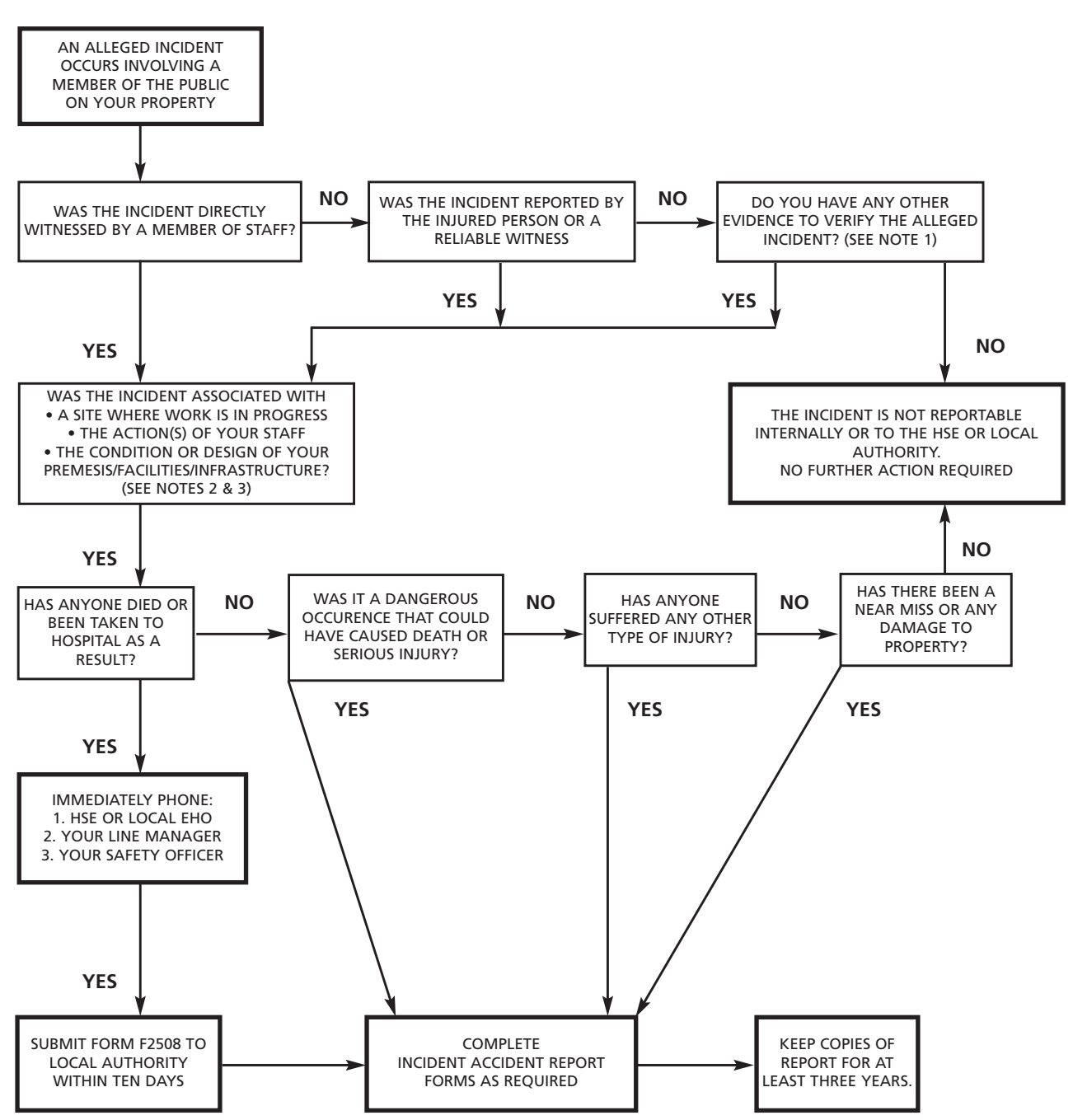
5.14 Appendix 5 provides an illustration of the kind of documentation that may be used by navigation authorities, or amended as required, to record:

- Priorities for assessment
- Site risk assessments
- Identification of outstanding issues and controls

6. Accident reporting, recording and investigation

- 6.1 All navigation authorities want their users to enjoy their waterway experiences and return home unharmed. It is therefore essential to learn from near misses and accidents that do occur.
- 6.2 However getting the information is not that easy. Millions of visits are made each year to sites that have free public access, often with no on-site management. Finding out about accidents, learning from them and communicating the lessons is a major challenge.
- Why report and investigate accidents?**
- 6.3 It is important to investigate accidents in order to:
- protect our users (first and foremost). It is important to identify the causes of accidents and near misses so that we can consider any measures necessary to prevent them happening again. This is a key element of any risk management strategy.
 - fulfil any statutory requirements. Some accidents to the public must be reported, under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR). (See below for specific details)
 - provide information in case there is a claim for compensation, or a need to defend against legal action.
 - identify trends in the pattern of accidents.
 - identify changes in the use of a facility.
 - measure whether a safety record is improving or worsening.
- Common obstacles to reporting**
- 6.4 As stated above the collection of accident/incident data is not easy. The following information is provided to assist navigation authorities overcome some of the obstacles:
- Difficulty in collecting information. This is especially relevant to navigation authorities who control large water bodies and/or unmanned or isolated sites.
- Fear of blame. It is important to create a management culture that encourages staff to report accidents and near misses.
 - Over-complicated reporting systems. It is important that reporting systems are clear simple and minimise paperwork.
 - Staff being unaware of the value of the information they supply. It is essential to give feed-back and show how things have changed as a result of accident investigations.
- 6.5 To overcome such problems will require time and effort and the implementation of a simple reporting procedure for users and staff. Once the procedure has been designed and (where possible) prior to implementation, user groups should be consulted to get their feedback and "buy in" to the process. Improved reporting at unmanned sites can be gained through education and liaison with users and, where practical, the provision of a contact number to report incidents immediately.
- RIDDOR Reporting procedures**
- 6.6 The main aim of these regulations is to provide enforcing authorities with information on specific injuries, diseases and dangerous occurrences arising from work activities. However as previously stated there is a legal requirement within the RIDDOR regulations, to report to the enforcing authority certain accidents where a member of the public is taken to hospital or killed. The "enforcing authority" is either the environmental health department of the local authority or the area office of the Health and Safety Executive.
- 6.7 In such circumstances the navigation authority should:
- Inform the enforcing authority of the incident, usually by telephone in the first instant.
 - This initial report must be followed-up within ten days by the issue of a completed accident report form (F2508) to the enforcing authority.
- 6.8 Deciding whether RIDDOR applies in particular circumstances is sometimes difficult. Accidents are reportable if:
- they arise out of, or in connection with, work **and**
 - the injury **necessitates** removal of a person from the site of the accident **directly** to hospital for treatment.
- 6.9 RIDDOR directs that an accident attributable to any of the following must be regarded as arising out of, or in connection with, work:
- the manner of conducting an undertaking - the way in which any work activity is carried out, including how it is organised, supervised and performed
 - the plant or substances used for the purposes of the undertaking - e.g., any machinery, equipment, lifts or appliance, gas installations, and substances used in connection with the premises or with processes carried on there
 - the condition of the premises or any part of them - including the structure or fabric of a building or outside area forming part of the premises and the state and design of floor or path, paving, stairs, lighting etc.
- 6.10 The word "premises" has a wide meaning. It could be a property like a house, gardens and parkland. It encompasses facilities such as toilets, playgrounds, forest walks and car parks. It can include canal towing paths and riverbanks and includes infrastructure such as roads and footpaths, locks and bridges.
- 6.11 The mere fact that a user sustains an injury on a navigation authority's property that necessitates them being taken to hospital for treatment does not make it reportable under RIDDOR. As previously stated the accident must have arisen out of, or in connection with, work. This may include the provision of facilities for recreation opportunities and access to the countryside for members of the public. Therefore, the application of RIDDOR needs interpretation in a waterway setting. Every case needs to be considered on its own merits. Take, for example, an injury sustained by slipping on wet grass. If the injured person was running down a hill in open country, it is unlikely that the accident would need to be reported. If the slip was on an urban towpath or official access, it may have resulted from a failure to provide an adequate path where needed, or from poor user management. If so, reporting would be necessary. If in doubt it is always possible to discuss the need to report with the enforcing authority or someone familiar with such situations.
- 6.12 Diagram 4 overleaf is intended to help ensure that accidents to members of the public are correctly reported. It suggests a framework that can be tailored by navigation authorities to suit their own circumstances.
- 6.13 It should also be recognised that navigation authorities must keep a record of any reportable injury. This must include the date and method of reporting; the date, time and place of the event, personal details of those involved and a brief description of the nature of the event. Records may be kept in any form. For example, by:
- keeping paper copies of report forms in a file
 - recording the details on a computer
 - maintaining a written log
- 6.14 The incident report form given in Appendix 6 may be used, or amended by navigation authorities as appropriate, for the purpose of keeping records.

Diagram 4. Reporting of incidents involving members of the public. (Applicable under RIDDOR).



Note 1: When the source of the report is other than by a direct witness (for example, a newspaper report) it may be reasonable to make basic enquiries, say by telephone, to determine whether the incident has occurred. This can be difficult. Hospitals are unlikely to release information to anyone other than close relatives. Give careful consideration to issues such as liability and possible litigation before making contact with the injured person or family.

Note 2: On occasions, an inquest may reveal that an incident, previously unreported, was 'associated' with one or more of these factors. If so, you should report the fatality to the relevant local enforcing authority (HSE or Local Authority). If the coroner has recorded an 'open' verdict but there is significant evidence that the fatality was intentional, the incident is NOT reportable.

Note 3: The meaning of "premise/facilities/infrastructure" is considered in paragraph 6.10.

Investigation procedures

- 6.15 Any incident that actually or might have caused harm to a person, or damage to property or the environment should be investigated.
- 6.16 Incidents need investigating in greater depth if:
 - someone was, or might have been killed or seriously injured
 - similar incidents could occur elsewhere
 - considerable damage has been done to property or to the environment
 - the accident was reportable under RIDDOR
 - it is clear that health and safety law has been broken

6.17 Procedures should ensure that someone with appropriate knowledge carries out the investigation. Procedures should also take account of the likely need to answer media enquiries, and such tasks should be allocated to someone who is competent in this regard.

An accident investigation report

6.18 Many organisations have special forms used to report accidents and record investigations. Often the two are combined. They typically gather the following information:

Basic Facts:

- What happened (Details of incident)
- Where did it happen (Location, canal, river, lock, weir etc)
- When did it happen (Date & time)
- How did it happen (Cause)
 - facilities or equipment involved
 - the weather
 - physical site characteristics
 - activity involved
- Who was involved
- Name and address of the reporting organisation

Evidence:

- 6.16 any photographs or video recording
- 6.16 witness statements
- 6.19 Evidence should be gathered before any changes are made to the site, and whilst it is fresh in people's minds. When gathering evidence it must be remembered that only facts should be reported and that speculation on what happened should be discounted. Where there are no eye-witnesses or where the evidence is not conclusive, words such as "alleged" can be used when recording the incident details.

Accident History:

- has a similar accident happened before?
- were recommendations made to prevent a recurrence?
- were the recommendations carried out?

Causes:

- immediate
- underlying

6.20 The immediate cause of an accident may be equipment failure. The underlying causes may be lack of maintenance and inspection or lack of training and supervision.

Recommendations:

- actions to lessen the chances of a similar accident re-occurring

6.21 The Incident Investigation Report form given in Appendix 7 may be used, or amended by navigation authorities as appropriate. As much succinct detail as possible should be included when completing the form.

Review

6.22 There should be a review after a specified period of time to see if the recommended actions have been taken, and to assess whether they were adequate and appropriate.

Appendix 1

Members of the AINA Project Steering Group

Chairman: Mike Barrett, Chief Safety Engineer, British Waterways
 Secretary: Philip Burgess, Research/Administration Manager, AINA
 Members: John Gibson, Navigation Manager, The National Trust (Wey Navigations)
 Robert Huntsman, Commissioner, Driffield Navigation Trust Ltd.
 Jonathan Richardson, Navigation Safety & Projects Officer, Broads Authority
 Peter Wade, Safety Advisor, British Waterways
 John Waters, Navigation Business & Support Manager, Environment Agency (Thames Region)

Appendix 2

AINA Project Specification: Managing Inland Waterway Safety Risks

Aim

The aim of the project is to develop a portfolio of training material to help navigation authorities manage inland waterway safety risks

Specification

The project will be in two complementary parts:

Industry-wide incident data collection

AINA has already launched an internally-funded initiative to pool members' data on accidents/incidents. The collected data will be analysed to provide a basis on which to identify trends and enable authorities to take decisions on corrective action before major incidents occur. However there are doubts about the adequacy of the data. It is suspected that there is under-reporting especially of less severe incidents; and that not all sources of data are being used.

Therefore, training material will be produced for AINA members which would enable them to exploit data sources to the full, and improve incident investigation. Combining and analysing these data through the industry-wide database will enable the whole industry better to understand the root causes of accidents.

Risk assessment of public activities

There is very little guidance and best practice available on managing the risks associated with public use of the waterways although this is a legal requirement under health and safety legislation. Some AINA members have developed their own public safety plans and risk assessment processes and have fed these into the work of the *Visitor Safety in the Countryside Group*, notably in the development of the Guiding Principles.

This work will be built on by developing training material for AINA members to assist them in introducing their own public safety programmes, of which appropriate risk assessment techniques will form the key element.

Benefits

The project will help navigation authorities understand more about the causes of accidents and the nature of public risk on the waterways, as well as providing an industry-wide source of good quality accident data and risk management best practice. Navigation authorities will be able to introduce measured responses which meet the risk management expectations of the public without detracting from amenity and environmental values. The project will contribute to any initiatives which might flow from the Government's review of safety on inland waters.

Appendix 3

Case Law: Duty of Care under Occupiers' Liability Acts 1957 (OLA57) and 1984 (OLA84)

As stated in Section 2 the occupier of premises owes a duty of care to lawful visitors (OLA57) and trespassers (OLA84), by reason of the state of the premises and things done (or not done) on them. (In Scotland the same duty of care is owed whether or not the visitor has permission to be there). An occupier may have some liability for an accident on adjacent premises. If the occupier is aware of a danger on adjoining land that is not readily apparent to a visitor, and if there is ready access from the occupier's land, the occupier may have a duty to prevent the visitor straying into danger.⁴

Visitors

In the event of an accident, the occupier will need to demonstrate that his actions were reasonable in the circumstances. Occupiers have been found liable in various ways. For example, in failing to light stairs⁵, and for failing to clear litter, over which a visitor tripped.⁶

You must consider the particular needs of people you invite onto your property:

A council was found at fault when an elderly person was injured tripping on an uneven path leading to a council building.

It was of particular importance that the path was used by many elderly people likely to be unsteady and upset by variations in the path with potentially serious consequences. It was found that the pathway could easily and cheaply be rectified by pointing and relaying.⁷

You must be able to demonstrate that your precautions are reasonable in the circumstances:

A visitor slipped and was injured on a sloping pathway at a school following a bad snowfall. The judge was entitled to take into account the subsequent installation of a handrail in concluding that the sloping pathway was a candidate for special treatment. He

judged that even though the path had been cleared and gritted before the accident, this was insufficient, given the prevailing conditions at the time and the particular nature of the path in question.⁸

The historic nature of the premises can be relevant:

A custodian at Pendennis Castle fell when descending external granite steps in broad daylight. The steps, constructed in about 1540, had a gully cut into them as a channel for rainwater. They were not defective but their design would not conform to modern building standards. The Historic Building and Monuments Commission for England had discharged their duty as occupiers of the ancient building by keeping the steps free from defect and not obscuring the channel, which was an obvious feature.

Although OLA 57 prescribes a standard of care which applies to all premises, the court was required to look at 'all the circumstances of each case'. The antiquity of the building was such a circumstance. Hadrian's Wall was not to be judged by the standards of Haringey Town Hall.⁹

You do not have to warn of dangers when it is reasonable to assume that they are obvious to the visitor:

- A woman was injured falling on slippery rocks at Brimham Rocks, Yorkshire. The judge ruled that the danger was obvious, and therefore there was no duty to warn.¹⁰

- A man injured falling from a cliff at High Tor, Matlock failed to prove that the landowner was negligent in failing to erect notices warning of the danger.¹¹

- The risk of slipping on wet algae was clear to someone walking on a harbour wall, (the Cobb at Lyme Regis). A warning sign was not therefore necessary.¹²

You do not always have to fence hazards, if they present an obvious danger:

- A natural, physical feature of the land, the dangers of which are plain, does not require to be guarded by protective measures, despite being capable of causing danger to careless persons. It is reasonable to expect the visitor to be aware of sudden drops. "To hold that this embankment constitutes a concealed danger which ought to have been fenced would in my view defy common sense. The logical extension of such a finding would be that every path along an embankment or cliff edge would require to be fenced in order to guard against a fall by a person going too near the edge and losing his footing".¹³

You must be prepared for children to be less careful than adults. Furthermore a warning sign, however clear in itself, cannot warn a child if he is unable to read. In some circumstances, particularly in the case of a young child, the parent may hold the primary duty of care.

Warning a visitor of dangers might be sufficient to absolve you from liability, but only if it was sufficient to enable the visitor to be reasonably safe.

Trespassers

Trespassers cannot make a claim for loss or damage. They may, however be able to claim for personal injury. You have a duty of care under OLA84 towards trespassers if:

- you are aware of the danger or have reasonable grounds to believe that it exists, and
- you know that the trespasser is, or might be, in the vicinity of the danger, and
- the risk is one against which, in all the circumstances, you may reasonably be expected to offer the trespasser some protection.

You are obliged to take such care as is reasonable in all the circumstances to see that the trespasser is not injured by the danger.

Failures to take reasonable care have included:

- not repairing a fence next to a railway line onto which children could stray¹⁴

- dumping quarry spoil around a pole so that children, known to trespass on the site, could get within easy reach of an electric cable at the top of the pole¹⁵

- failing to block doors and windows in a derelict house, allowing children to get in and be injured¹⁶

The age of the trespassers and their appreciation of the risks involved is relevant:

In the railway case above, children had previously been seen on an electrified railway line running through National Trust property. A six year old child was subsequently injured, having gained access through a broken fence. British Rail was found negligent.

⁴Implied in judgement, Shaw v National Trust, 1991, Queen's Bench Division S1286

⁵Stone v Taff, 1974, 1WLR

⁶Jennings v British Railways Board, 1984, 134NLJ584

⁷Wright v Greenwich LBC, 1996, CLY 4474 ⁸Murphy v Bradford MBC, Court of Appeal, 29 January 1991, PIQR P68

⁹Hogg v Historic Building and Monuments Commission for England, 1988, CLY2573 ¹⁰Shaw v National Trust, 1991, Queen's Bench Division S1286

¹¹Cotton v Derbyshire Dales District Council, Court of Appeal, 10 June 1994

¹²Staples v West Dorset District Council, Court of Appeal, 5 April 1995 PIQR P439

¹³John Malarkey Duff v. East Dunbartonshire Council and others, 1999, ScotCS 114

¹⁴British Railways Board v Herrington, 1972, AC877

¹⁵Southern Portland Cement v Cooper, 1974, AC623

¹⁶Harris v Birkenhead Corporation, 1976, 1WLR279

However, a fifteen year old, also injured on a railway line was judged to have been well aware of the risks when trespassing, and the fence, even though dilapidated, was deemed to give adequate warning. In this case British Rail were not at fault.

Contributory negligence

Visitors and trespassers must take reasonable care for their own safety. Negligence on the part of the visitor or trespasser can be set against the liability of the occupier.

A power company was at fault for not maintaining the height of a fence around a sub station. They allowed a build up of debris to reduce its effective height from six to four feet, at a point where they knew children played football in an adjacent car park. Thus, far from deterring entry, it encouraged boys to cross at that point to retrieve their footballs. However, a boy injured when crossing the fence, was aware of the risk of an accident and had earlier been warned by his father. The boy, through his own negligence, was found to have contributed to the extent of one third.¹⁷

Willing acceptance of risk

You are not liable for risks that are willingly accepted by a visitor or trespasser.

However you need to show that the risk was, in fact, accepted. That a person proceeded beyond a warning sign cannot in itself be relied upon to signify that the person had accepted the risk.

The actual risks accepted will be limited to those normally arising in the circumstances. Visitors might, for example, willingly accept the risks specifically coming from a sport or recreational activity in which they are participating. However, they are not accepting any additional risks that arise out of your negligence.

A 6 year old boy suffered brain damage after almost drowning in a swimming pool. The family had just arrived and the parents were attending to a younger child. The parents were aware the boy could not swim and he had no arm supports. The tour operator was fully liable because:

No lifeguard was on duty.

No staff were on hand to give artificial respiration.

No adequate notice was provided to state the pool sloped sharply.²⁰

National parks

People going onto land by virtue of the National Parks and Access to the Countryside Act 1949 are not classed as “visitors” who would be covered by the provisions of the Occupiers’ Liability Act, 1957. However anyone suffering injury in those circumstances could still potentially pursue a claim under OLA84 or at common law.

Countryside and Rights of Way Act 2000 (CROW 2000)

CROW 2000 amends OLA57 so as to reduce occupiers’ liability owed to those exercising their right of access to the same level owed to trespassers. In addition it amends OLA84 so that occupiers will owe no liability to those exercising the right of access, nor to trespassers, in respect of natural features of the landscape.

Appendix 4

Visitor Safety in the Countryside

Guiding principles

These principles have been drawn up by a working group of representatives who advise on visitor safety in the following organisations: British Waterways, Countryside Management Association, English Heritage, English Nature, the Environment Agency, Forestry Commission, the National Trust, National Parks, Royal Society for the Protection of Birds, and Worcestershire County Council. They are the views of the group members and may not yet be the policy of the organisations listed. The principles should be considered as a set. They are intended to provide a framework to guide individual managers and to help inform judgement when issues of visitor safety are being considered. It is intended that they will be developed to become guidance on best practice and to be an integral part of the policy of interested agencies.

The words “visitor” and “countryside” are interpreted broadly. The principles are intended to apply to individuals and groups visiting land, water, buildings and other structures. They are applicable, for example, to country parks, canals and rivers in urban areas besides more open countryside. Visitors include people engaged in informal recreation as well as participants in various sports and activities. The principles are not intended to cover employee safety, or the work of contractors. The principles are grouped under five main headings.

When managing safety:

Fundamentals

- Take account of conservation, recreation and landscape objectives.
- As far as possible, avoid compromising people's sense of freedom and adventure.
- Avoid restrictions on access.

Awareness

- Ensure, as far as possible, that all risks are taken voluntarily.
- Inform and educate visitors about the nature and extent of hazards, the risk control measures in place, and the precautions which visitors themselves should take.

Partnership

- Recognise that people taking part in similar activities will accept different levels of risk.
- Recognise that risk control measures for one visitor group may create risks to others.
- Work with visitor groups to promote understanding and resolve conflict.

Responsibility

- It is important to strike a balance between user self-reliance and management intervention.
- It is reasonable to expect visitors to exercise responsibility for themselves.
- It is reasonable to expect visitors not to put others at risk.
- It is reasonable to expect parents, guardians and leaders to supervise people in their care.

Risk control

- Assess risks and develop safety plans for individual sites.
- Risk control measures should be consistent.
- Monitor the behaviour and experiences of visitors to review visitor safety plans.
- Ensure work activities are undertaken to avoid exposing visitors to risk.

Fundamentals

Take account of conservation, recreation and landscape objectives.

The application of some modern safety precautions may be in conflict with conservation, recreation or landscape objectives central to the agency concerned. For example, it would be possible to reduce risk when crossing historical aqueducts by erecting railings. Handrails and steps could reduce risk on steep mountain descents. Fencing might lessen risk if erected at the edge of cliffs or water. However, the application of such control measures could fundamentally detract from the historical integrity of the structure, and inherent attraction of the landscape. A balance must be achieved between risk and the impact of safety measures.

¹⁷McGinlay v British Railways Board, 1983 IWLR 1427

¹⁸James Dawson as guardian of James Dawson, junior v. Scottish Power plc, 1998, ScotCS 59

¹⁹This is known as the defence of *volenti non fit injuria*

²⁰Roberts v. Sunworld April 2001

As far as possible, avoid compromising people's sense of freedom and adventure.

The essential appeal of wild and remote places should not be unduly compromised by signs and fences. Individuals should be free to make their own informed decision to participate in high risk or adventurous activities. Riders of mountain bikes should not be prevented from experiencing the exhilaration of steep descents and challenging drops, if that is their informed choice.

Where activities conflict, it may be necessary to restrict an individual's freedom for the benefit of others. However, look for solutions that could still allow conflicting activities to take place, for example, by restricting the area in which an activity can take place, or by allowing conflicting uses to take place at separate times.

Avoid restrictions on access.

Sometimes restricting access **is** necessary. Sometimes the principles of conservation and sustainability may have to take precedence over that of access, although ways of protecting the building, structure or landscape, whilst still allowing access, should always be explored first.

Restrictions might also be necessary when maintenance works or commercial operations (like timber harvesting) are taking place. Restrictions should be kept as short as possible, and timed to cause least interference to visitors.

As far as possible, visitors should not be presented with an array of restrictions and prohibitions on what they are permitted or not permitted to do whilst on site. A collection of negative messages, or the inappropriate use of disclaimers can be counter-productive, and should be avoided.

Awareness

Ensure, as far as possible, that all risks are taken voluntarily.

To be able to accept risk voluntarily, visitors must be aware of the nature and extent of the risk to which they are exposed. Visitors may arrive on site in full knowledge of the relevant risks. Sometimes they will become aware of risks through their own perception when on the site. In other cases, information about risk might be provided on signs at car parks, or access points. For example, if aware of an unfenced drop, visitors can decide whether or not to accept the risk of going near the edge. The level of risk should not come as a nasty surprise.

It may be reasonable to expect participants in sports and other activities to have awareness of the usual risks associated with the activities. It may be necessary, however, to inform users of additional hazards specific to the site. For example, a sub aqua diver should have knowledge of the normal risks of the sport, but should be made aware of additional hazards, say from sluices, if diving in a reservoir.

Inform and educate visitors about the nature and extent of hazards, the risk control measures in place, and the precautions which visitors themselves should take.

It is often appropriate to control risk through information and education rather than by physical intervention on site. High-risk groups can be targeted. Children might be informed through schools. Participants in sport and recreation may be contacted through event organisers, governing bodies and local user groups, and by information issued with licences, tickets or permits. Stickers or leaflets can be applied to bikes, canoes, boats, fishing tackle, outdoor equipment and the like prior to hire or sale. Advice can be provided in Tourist Information Centres, climbing shops, holiday accommodation, etc. The Internet, local radio and telephone message lines can be used to give up to date information; for example on weather conditions in mountain and coastal areas. Signs can be erected in car parks, stations and other access points.

Partnership

Recognise that people taking part in similar activities will accept different levels of risk.

It is necessary to understand differences in how people view and accept risk. There are significant variations within the same recreation category, for example between a family out for a gentle cycle ride and competitive mountain bikers. Many activities share this contrast between "extreme" adherents and more gentle recreation participants. Codes of practice issued by governing bodies of sport can be helpful.

Recognise that risk control measures for one visitor group may create risks to others.

For example, a fence erected at a lock side to prevent a walker drowning, might create a crush hazard to a boater. Work with visitor groups to promote understanding and resolve conflict. For example, encourage cyclists to slow down or dismount on narrow paths used by walkers. Consider promoting physical segregation of different uses. Promote awareness of the needs of other users.

Responsibility

It is important to strike a balance between user self-reliance and management intervention.

The risk control matrix (page 28) explains this principle in greater detail. Note that the matrix is only a framework to guide analysis. Adverse weather conditions can make activities in easy terrain more hazardous. It is also reasonable to expect higher levels of user self-reliance on land where no recreational facilities have been specifically provided but public access is a fact. Paths in such areas may have developed through informal use and may not form part of the managed recreational infrastructure.

It is reasonable to expect visitors to exercise responsibility for themselves.

For example, it is reasonable to expect walkers in mountains to be equipped with waterproofs and suitable footwear. It is reasonable to expect horse riders to wear proper safety helmets.

It is reasonable to expect visitors not to put others at risk.

For example, people hang gliding should not alarm horses. Horse riders should not gallop past pushchairs.

It is reasonable to expect parents, guardians and leaders to supervise people in their care.

For example, in stopping children rolling stones over cliff drops, in watching children near water. The result is that there may not be a need to erect signs forbidding rolling stones, or fences to prevent access to water. (Note that the parent, guardian or leader may need to be informed of risks that lie out of sight.)

Risk control

Assess risks and develop safety plans for individual sites.

It is essential to assess risk within the framework of an overall visitor safety plan for an organisation. The overall safety plan should set out the management framework and mechanisms for carrying out individual site assessments. It should contain an overview of accident data and consider acceptability of risk. What constitutes a "site" will vary between organisations, and there will usually be a hierarchy of safety plans. A canal, a country park, or a forest could each have a safety plan as a site. Within them, a lock, a car park, or a picnic area could need an individual risk assessment and a safety plan.

The risk assessment would typically involve identifying activities on the site, the potential accidents, their causes, frequency of occurrence and possible consequences. If the risks are judged acceptable, then no immediate action is necessary. The safety plan, however, would indicate the need to review the site over time, or if usage changed. If the risks were unacceptable, further investigation might be required, or risk control measures might be planned. These measures should take into account available guidance from the Health and Safety Executive and other relevant bodies. The concept of doing what is "reasonably practicable" should be considered in terms of meeting conservation, recreation and landscape objectives as well as considering the time, trouble, cost and effort of reducing risk.

It is valuable to carry out the site assessment through the minds of the visitors and by considering the activities they are engaged in. Look out for risks that some activities may pose to other users.

Risk control measures should be consistent.

Consistency is important within a particular location; from site to site within a regional or national organisation; and between different organisations. Ideally, the visitor should know what to expect at any location. Inconsistencies in the application of risk controls (for example the absence or presence of fencing at similar cliff edges and watersides) could lead to misinformed user decision-making. Note that consistency is not the same as uniformity. Design solutions should be allowed to reflect the individual character of the site.

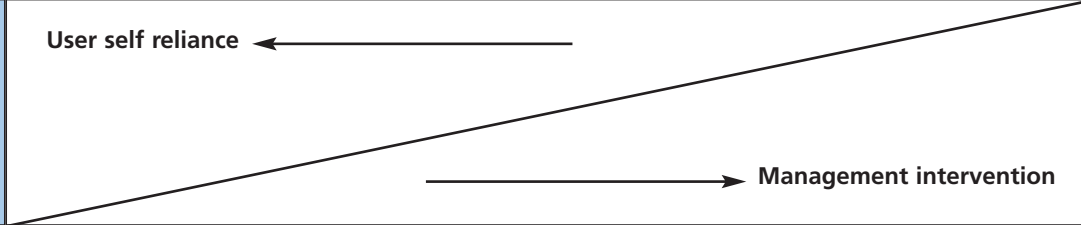
Monitor the behaviour and experiences of visitors to review visitor safety plans.

Learn from experience of incidents and near misses. Add questions about accidents to visitor surveys. Have systems in place for accident reporting and investigation, and the communication of lessons learned.

Ensure work activities are undertaken to avoid exposing visitors to risk.

On occasion, this may require access to be diverted or denied, for example, when spraying bracken by helicopter, or during commercial harvesting of timber.

Risk control matrix

ZONE	Natural waters/immersion water-sports	Rural waterways/placid activities	Urban waterways	Visitor centres/museums
RISK CONTROL				
	Level of user's skill and self reliance	ADVANCED	MODERATE	MINOR
Personal safety skills	Thorough knowledge of activity through personal experience and or training. This would include requirements for personal safety and self-reliance.	Skills and knowledge of activity, personal safety and self reliance are important	An understanding of the activity personal safety and self reliance encouraged but not expected	Skills and experience of activity personal safety and self reliance not expected
Level of expected support from navigation authority	MINIMAL	MINOR	MODERATE	MAJOR
Water type/activities	Open water exposed to natural elements. Running water subject to sever flows /turbulence. Uses include wind surfing, canoeing and use of personal watercraft. Could have steep banks poor access for land users.	Considerable levels of unmanaged vegetation in and out of navigation. Rural towpaths with natural surface used by walkers, anglers & cyclists Access facilities for the less able unlikely.	Managed water-space, modest level of fitness required. Surfaced towpaths well maintained. Limited access for the less able	Highly managed water-space well lit and signed, possible provision of lifesaving equipment. Level access, with no hidden dangers, accessible for all ages with full facilities for the less able
Hazard Management	No management intervention	Minimal intervention, few warning signs. Limited use of physical safety measures	Modest management intervention, some advisory signs.	Major management intervention, high profile signs, barriers, warnings, and safety provision.

Appendix 5 AINA user safety - Assessment priority programme

AINA USER SAFETY - ASSESSMENT PRIORITY PROGRAMME	Form AINA/URA1	
	Initial Assessment Dates	Re-Assessment Dates
	PLANNED	PLANNED
	ACTUAL	ACTUAL
Site	Risk Level Low Med High	Authorised by:
Programme Date:		

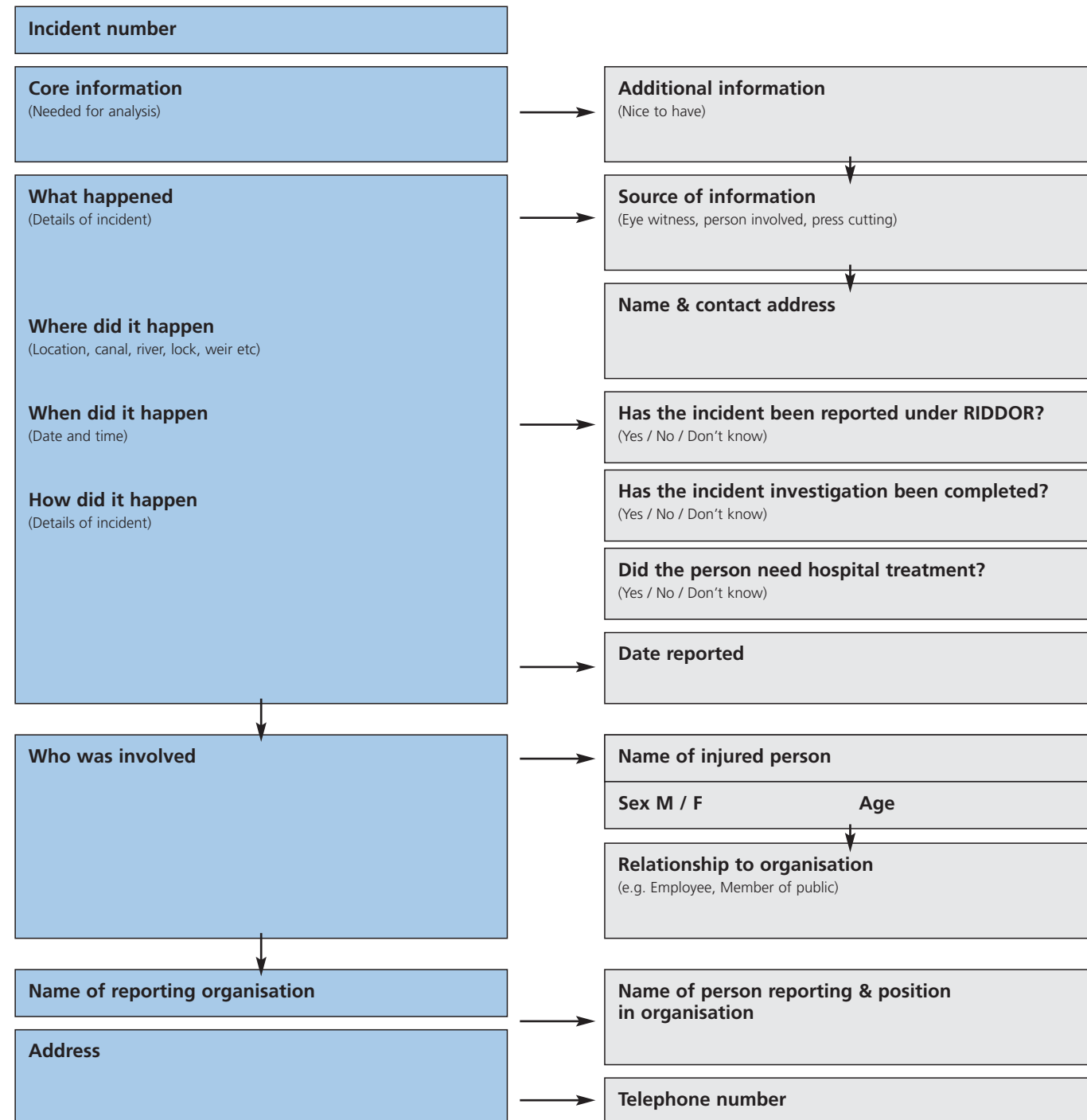
Appendix 5 AINA user safety - site assessment/risk control report

AINA USER SAFETY - SITE ASSESSMENT/RISK CONTROL REPORT					
Form AINA/URA2					
Navigation: _____					
Assessor(s): _____					
ASSESSMENT OF RISK			RISK CONTROL		
Ref.	Site features /activities	Possible incidents /accidents	Identified causes	Risk Level Low Med High	PROPOSED/REVISED MEASURES
Authorised by: _____ Date: _____					Proposed Review Date: _____

Appendix 5 AINA user safety - Programme of outstanding issues and controls

AINA USER SAFETY - PROGRAMME OF OUTSTANDING ISSUES & CONTROLS					
Form AINA/URA3					
Ref.	Outstanding issue/control measure	Action By	Target Completion date	Comments	Complete Y/N
Programme Date: _____ Authorised: _____					

Appendix 6 AINA incident report form



Appendix 7 Incident investigation report form

Incident number	Location	Report Number
Details of injury / Damage		
Events leading up to the incident		
Description of the incident		
What were the causes		
What can we do to prevent similar incidents		Action Dates
Name & signature of Investigator		Name & signature of line manager