

Water Safety Management



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Water Safety Management Policy: Huntingdonshire District Council

This document presents a Water Safety Management Policy for Huntingdonshire District Council.

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1. RLSS UK Overview

RLSS UK is the UK's leading organisation for water safety management and well placed to support employers/organisations in protecting their employees/workforce, through practical advice and guidance. Our Water Safety Management offering provides a complete range of bespoke services, ensuring we are customer focused, tailoring programmes to meet organisations' operational needs. Our comprehensive suite of products include:

- Development of water safety management policies
- Legal and policy advice
- Technical advice
- Risk assessments and safety audits
- Training and education
- Procurement of equipment
- Research

We have worked with a wide range of sectors on water safety matters, including private engineering and surveying, security, outdoor education and local government. Our key strength and focus is developing partnerships with our customers to provide unique and individual solutions and ongoing support.

2. Introduction and Terms of Reference

Huntingdonshire District Council (HDC) owns and is responsible for a wide range of open water spaces with varied access and use. The Council recognises the need for open water for both environmental reasons and for recreation and leisure activities.

RLSS UK have been commissioned to create the Water Safety Management Policy for HDC, with specific requirements to conduct risk assessments at key water locations either owned or managed by HDC. In addition, RLSS UK provided open water risk assessment training for council officers. The training is accredited by RLSS UK and the Chartered Institute of Environmental Health.

2.1 Scope

The audit will comment on:

- Legal Responsibility
- Water Safety Hazards at Key Locations
- Risk Management
- Recommendation on signage
- Recommendation on public rescue equipment

2.2 Purpose

The purpose of the report is to give a clear indication to Huntingdonshire District Council of the extent to which it is meeting its water safety obligations and of opportunities to improve the suitability and performance of control measures. The report advises as to current best practice and future options.

In the recommendations that follow RLSS UK has endeavoured to identify all the significant risks at key locations. However, it is essential that equipment, signage, risk assessments and operating procedures are continually developed and reviewed in response to changing legislation, best practice documents, active monitoring and the investigation and outcomes of accidents and near misses.

The Council will provide appropriate arrangements for the management of areas of open water under its control. These arrangements should ensure that, 'so far as reasonably practicable', all open water facilities and other water based facilities for which the Council is responsible, are maintained in a safe condition for the benefit of the users and the safety of staff.

The safety measures detailed in the report will only have initial bearings on the current design of the features.

This report forms the strategic water safety policy. There is a focus on the sites listed below. HDC are trained and qualified in open water risk assessments by RLSS UK and the Chartered Institute of Environmental Health. In addition, mentoring was provided to the candidates to provide them with experience in conducting open water risk assessments themselves. HDC now have the capacity to conduct their own open water risk assessments. Therefore, it is imperative that maintenance and continual monitoring, in the way of risk assessments, are integral to the Council's management system/s.

2.3 Limitations

To determine key areas to risk assess, direction was taken from HDC officers and consultation with local community stakeholder groups. This project focuses solely on the sites listed and does not form a definitive list of all open waters and hazards within the district. It is recommended that a working group be set up to continually map open water hazards within the Council's area of responsibility. HDC officers have been trained and are qualified to undertake open water risk assessments.

In carrying out this safety review RLSS UK would point out that audits and reviews are by nature a sampling exercise – based on observations made during a single site visit on environmental conditions at that times and on information provided and gathered as part of the audit. Therefore, the reviewer cannot guarantee to identify all safety hazards around the sites. Opinion is formed by a review of the site at the time of site visit, and in prior and subsequent dialogue with council officers and key stake holders.

The absence of comment on any issue should not be taken to imply the absence of risk from that issue. It is implicit in these recommendations that HDC pro-actively monitors and reviews safety arrangements in the light of operational, environmental, activity or behavioural changes.

Representatives of HDC responsible for making known any information of relevance to this audit.

3. Water Safety Policy

The Water Safety Policy is a strategic working document, designed to manage water safety through effective risk management. The policy will identify a management structure of responsibility and map key water safety locations, identify significant hazards and recommend measures to mitigate against risk as part of a drowning prevention programme. The policy should link to the Council's Health and Safety Policy.

This document relates to water bodies owned by or under the responsibility of HDC. It does not cover water bodies within the district that are not the responsibility of HDC.

3.1 Why have a policy

Any drowning is tragic and the emotional cost is immeasurable, impacting not only the victim but family and friends. HDC have taken a very responsible and proactive approach to developing a drowning prevention strategy, to minimize the risk of drowning within the community. The policy includes:

- Proactive approach to water safety management
- Fewer drownings
- Effective risk management
- Compliance with the law
- Development of a water safety culture – instil within the staff

3.2 Responsibility

The policy should be the responsibility of an appointed senior manager, with a support team, to include key stakeholders. Typical composition includes an operational manager, representatives from health and safety, environmental health, emergency planning and countryside rangers and outside stakeholders. This group will be responsible for planning, action and reviewing of the document including revision of risk assessments, maintenance of signage and rescue equipment.

4. Methodology

RLSS UK were commissioned to conduct a water safety management audit of HDC. The specific work included:

- 1 Review the draft Water Safety Policy recently completed in house.
- 2 Identify higher risk areas in the district and concentrate on assessment advice on these sites.
- 3 Provide water safety training (certificated) for a minimum of six HDC employees.
- 4 Work with the trained HDC employees to create water risk assessments throughout the district.
- 5 Provide ongoing support after the training either one to one, in person or email / phone.

An initial review meeting was held with Judith Neal (2016). The work commenced on the 3rd of May, with a one day RLSS UK/Chartered Institute of Environmental Health open water risk assessment training programme.

The field work, was conducted with HDC staff on both the 9th and 10th of May. To establish the locations to assess, a consultation exercise was conducted. This included gathering information from the local authority, including using their rangers and operators to advise on locations and hazards. In addition, we contacted a series of stakeholders to design the assessment programme, such as Friends of Paxton Pits, to gain as much local knowledge as possible.

The field work focused on specific locations and identified primary hazards. Photographs and notes were taken of relevant features of the water sites and a risk management plan produced. On completion of the field work, the stakeholder group were contacted again for a final review of the sites visited.

This policy document was compiled based on discussion, observations and comparison with industry best practice standards.

4.1 Best Practice Guidance

Advice and guidance about the range, nature, severity, risk rating and appropriate control options are drawn from best practice guidance found in RLSS UK Publication 'Safety at Inland Water Sites'¹ in addition to the HSE Risk Management² and ISO 31 000 Risk Management³ standards. Please refer to the reference section.

The opinion of the Consultant, based on training and operational experience is also expressed where appropriate.

5. Site, Location and Stakeholders

5.1 Historical Context

Within the HDC district there have been a number of tragic drownings, details listed below in the table. These sites have been a priority for the risk assessment process.

Location	Incident	Year
Regatta Meadows, St Neots	Man drowned, dived in to river retrieve football	2015
Church Lane, Huntingdon	15yr old boy drowned, swimming in river with friends (he couldn't swim)	2014
Riverside Park, St Neots	Suspected suicide, lady jumped off bridge into river	2014
Hinchingbrooke Country Park, Huntingdon	Lad drowned in lake whilst swimming during an event	2003
Hinchingbrooke Country Park Huntingdon	Skating on frozen lake, people got into difficulty but no one died	1998

Table of Water Based Incidents

5.2 Water Sites

The schedule of water sites reviewed are listed below. The risk assessment considered both the general public and HDC staff working around the water margins. Specific staff work operational hazards, such as strimming and mowing near water are not within the remit of this report. Where locations are subject to particular users groups, such as younger people, these have been highlighted.

Location	Reason
Black Weir, St Neots	Used by youths to swim. The site contains a weir.
Conegeare Park, St Neots	Part of the Great Ouse, known for swimming
Paxton Pits, St Neots	Nature reserve with many lakes very popular.
Regatta Meadows, St Neots	Meadows are used for events and every day activities, the river runs the length of the east side.
Riverside Park, St Neots	River runs to east of park with inland brooks and a 'boating lake' in the centre
Skate Park, St Neots	Bridge over river, near skate park, well used by skaters
Riverside Rocket Park, St Neots	Small water pond, that can fill following rain
Wigmore Farm	Balancing pond near residential housing
Church Lane, Huntingdon	Well known for swimming
Hinchingbrooke Park,	Well used park with lots of organised activities, three lakes,

Huntingdon	marsh pond and a brook with steep banks
Riverside Park , Huntingdon	Park runs alongside river
Holt Island, St Ives	Nature Reserve on an island accessible by bridge
Loves Farm, St Neots	New estate with balancing ponds and water courses
Mill Meadow, Little Paxton	River running past meadow, access limited

Table of Locations Assessed

5.3 Key User Groups / Stakeholders

Group / Stakeholder	Email address / phone no	Location of water
Marcus Pickering, Loves Farm Community Association, Loves Farm, St Neots	chair@ourlovesfarm.co.uk	Loves Farm balancing ponds etc.
Friends of Hinchingsbrooke Country Park, Huntingdon	www.friendshcp@yahoo.com	Hinchingsbrooke Country Park
Friends of Paxton Pits, St Neots	friends@paxton-pits.org.uk	Paxton Pits Nature Reserve
Huntingdon Boat Club, Riverside, Huntingdon	info@huntingdonboatclub.co.uk Tel: 01480 456963	Riverside, Huntingdon
Purvis Marine, Riverside, Huntingdon	01480 453628	Riverside, Huntingdon
Cambridgeshire County Council (land owners)		Hinchingsbrooke Country Park
Oxford University Press	Land owners	Paxton Pits Nature Reserve

Table of Stakeholders

6. Legal Requirements

In addition to safeguarding lives, a key function of this policy document is to ensure compliance with legal requirements. Various pieces of legislation place statutory duties on the site owners of water-sites, or the person responsible for the sites, to provide for the safety and well-being of visitors, which includes employees and members of the public. The Consultant has highlighted those issues which directly relate to the recommendations which follow in this report. However, this does not constitute a complete list of all relevant law and Regulation. Both statute and common law are of relevance to HDC. Extracts of applicable legal instruments, pertaining to working around water are detailed below.

6.1 Statutory Health and Safety Requirements

6.1.1 Health and Safety at Work Act 1974:

This is an enabling Act with the aim of securing health and safety in the workplace. Regulations made under the Act place more specific duties on employers than employees. Section Three of the 74 Act specifically requires every employer to ensure, so far as is reasonably practicable, that he/she takes the necessary steps to ensure the safety of non-employees affected by his/her activities.

6.1.2 The Management of Health and Safety at Work Regulations 1999:

These were made under the enabling powers of the 74 Act. They require that health and safety is suitably managed so as to control risks effectively and present no harm to people. The regulations require that adequate and suitable assessments of work related hazards should be carried out to determine the preventative and protective steps that must be taken.

The Regulations state, with relation to organisations and companies:

'Their main duty is to plan, manage and monitor the work under their control in a way that ensures the health and safety of anyone it might affect (including members of the public). Contractors working under the control of the principal contractor on projects with more than one contractor'.

They also require employers to have access to competent advice, to monitor and review their systems, to have emergency procedures and to provide information and training. Individually and in combination the Act and Regulation (and others) have to apply directly to both users of (customers) and employees of (commercial) water sites.

6.1.3 Occupiers Liability Act 1957:

This states that the occupier must take reasonable steps to ensure the safety of visitors to his/her land or premises. This duty is particularly onerous where children are concerned.

6.1.4 The Health and Safety (Safety Signs and Signals) Regulations 1996:

This implements European Directive 92/58/EEC, which came into force in April 1996. This standardises safety signs throughout member states of the EU. The regulations require employers to use safety signs where there is significant risk to health and safety of their employees that has not been avoided or controlled by methods required under other relevant law, provided use of a sign can reduce the risk. These Regulations do not place any duty on employers to provide signs to warn other people (e.g. visitors, neighbours) of risks to their health and safety. They do not apply to the self-employed. However, in both these cases employers, or the self-employed, will still have duties under section 3* of the Health and Safety at Work etc. Act 1974 (the HSW Act) and regulation 12 of the Management Regulations regarding the health and safety of non-employees, and may find the safety signs described here helpful in meeting these general duties.

A BSI standard, BS 5499-112002, specific to water safety, was published in 2002 and RLSS UK recommend that any new signage should conform to this standard in the future and that a regular review of existing signage is carried out. The RNLI provide good guidance on safety signage design and manufacture⁴.

6.2 Common Law Duty of Care

Under Common Law, negligence may arise from the breach of fundamental duty, known as a 'duty of care'. The duty is described as follows, and applies to members of the public, employees and anyone and everyone who may be 'affected by your undertaking'.

'To take reasonable care to avoid acts or omissions which you can reasonably foresee would be likely to cause injury to your neighbour'

The duty specified is 'to take reasonable care'. This can be defined as 'what the reasonable man/woman would have foreseen as necessary'. A certain level of risk is acceptable and it is expected that safety measures will be applied 'as far as is reasonably practicable'. In other words, practicable measures have to be technically feasible and costs in time, money and effort should be reasonable.

6.3 Enforcement

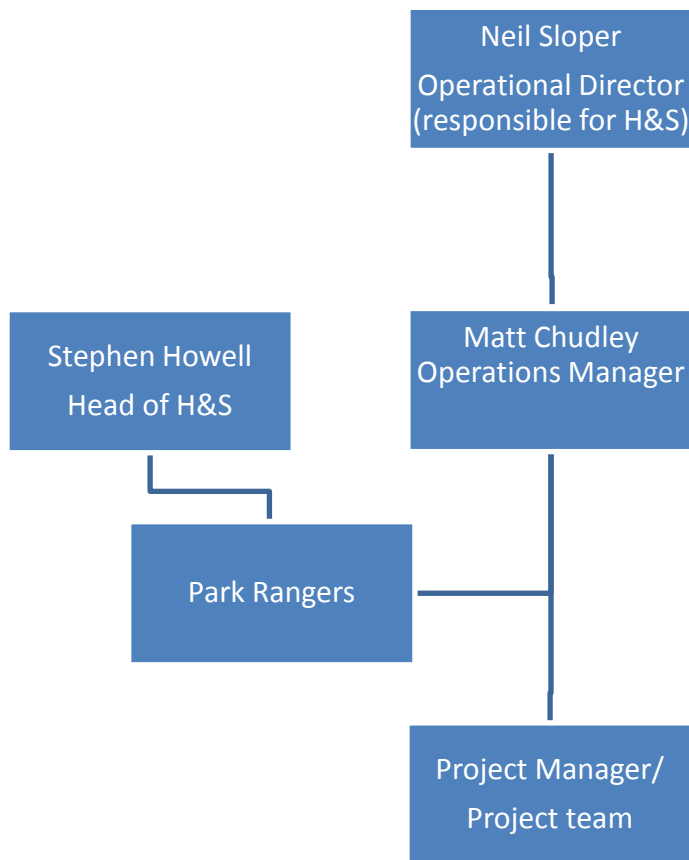
In the event of breaches of law, injury or death it is likely that enforcement action would be taken by either (Local Environmental Officers) or HSE Inspectors who have wider ranging Investigative and enforcement powers. They may issue Prohibition or Improvement notices and may prosecute. The Police may initiate separate or combined investigations and will take action in the normal way if a criminal act has been or is suspected of being committed. Failing to comply with an Act or Regulation is a criminal act.

Private individuals may sue for damages.

7. Management Arrangements

7.1 Organisational Structure

Organisation structure



Flow Chart of Management Arrangements

7.2 Staffing and Contractors

All Huntingdonshire District Council staff and contractors responsible for open water sites are required to implement the Council's Health and Safety Policy Organisation and Responsibility and to undertake suitable and sufficient risk assessments in relation to activities carried out adjacent to water.

8. Risk Management

Open water by its very nature presents risk and it is expected that a certain level of risk is acceptable. When conducting a risk assessment, it is important to take into account technical issues and benefit and cost implications to ensure that control measures are put in place reduce the risk to as low as is reasonably practicable.

The Health and Safety Executive state that as part of the management of health and safety of your organisation you must control risks. We have already looked at the legal requirements, under the Management of Health and Safety at Work Regulations. We now need to understand the practical implications of conducting risk assessments for open water, in connection to protecting the general public and employees.

Understanding the hazards associated with water and working around the water margins introduces a different dimension to health and safety and risk assessments. Water hazards can present serious consequences, even fatal, if appropriate safety measures are not in place.

8.1 Generic Risk Assessment and Control Measures

This document contains the generic water safety hazards across the water sites assessed within Huntingdonshire District Council. Site specific hazards and recommended control measures at individual locations are highlighted in a separate risk management document.

8.2 People

The risk assessment considers the general public who use or are exposed to the main water hazards at key locations for which HDC is responsible. Due to the variety and number of water spaces within the district, each site has specific hazards and can also have different user groups, from families, dog walkers, young people to fishermen and boat users. In addition, the controls put in place will reduce risk for HDC officers working around the water margins. For each location, where appropriate, a general description of the main user groups at each site is provided.

8.3 Control Arrangements

For details of the individual locations risk management arrangements refer to the individual risk management plans. Details of standardised signage and public rescue equipment is contained within this policy, below.

8.4 Risk Management Model

Risk management is a systematic approach to considering hazards and introducing controls to mitigate risk, reconciling reasonably practical measures against benefit. There is a whole raft of different methods for assessing risk including some numeric and alpha numeric systems. The process is by its very nature subjective, so risk assessment methods attempt to model the extent of risk and by looking at probability and severity of outcomes. However, many systems are either complicated and /or numerically sensitive.

The risk rating system used for this work follows a traffic light system, which creates an understandable and robust way to assess risk leading to sensible and appropriate control arrangements. Risk management is effective when conducted by competent and experienced personnel that can apply sound principles and logic. The risk management model employed for this project is compliant with the principles laid out by the HSE Risk Management² and ISO 31 000 Risk Management³.

- i. Establish the context
- ii. Identify the hazards
- iii. Who might be harmed
- iv. Evaluate the risk (traffic light system)
- v. Apply appropriate control measures
- vi. Record your findings
- vii. Review your risk assessment

8.5 Risk Rating

The relationship between hazard and risk is subject to an infinite number of inputs including personal capability, weather, task, range and extent of injury and so on. Therefore, the classification of high, medium and low is only a very rudimentary guide and not intended to be an exact science.

The traffic light system, identifies and categorises risk into three levels, Red, Amber and Green. Red is high risk and is not acceptable and must be controlled immediately. Amber is medium risk and where there is a known risk that cannot be removed, appropriate control arrangement are in place to mitigate the risk to an acceptable level. Green is either that the risk has been removed or reduced to an acceptable level.

There are occasions where the risk falls between two levels, for example high to medium (red to amber). Where any result contains a red result, controls must be put in place as this is not acceptable.

High - not acceptable



Medium - As Low as Reasonably Practicable (ALARP)



Low – acceptable or ALARP



9. Hazard Categories

9.1 Generic Categories

Hazards arising from working around water fall into three generic categories, listed below. Each category will be examined independently. Of significant importance, when considering open water risks, is the dynamic nature of environmental hazards. Clearly, the natural environment is subject to change and quickly in addition to the magnification of risks, when certain environmental hazards interact. When preparing safety systems for open water, it is imperative that weather conditions and water levels are taken into account including nationally available weather predictions, such as provided by the Environment Agency. All workers must be aware of the changing nature of open water hazards and have received training to dynamically risk assess the operations undertaken and make informed decisions to ensure the safety of the team.

- Environmental risks
- Operational risks
- Human risks

9.2 Environmental Risks

The table below lists significant hazards associated with open water (this is not exhaustive). For each location consideration must be given to the key hazards at that site.

Water temperature	Water quality	Water depth and flow
Height of freeboard	Bank stability	Access/Egress
Submerged objects	Entrapment Structures/Vegetation	Slip hazards (trips and falls)

9.3 Operational Risk

Operational risk includes risk to both personnel and equipment. Where personnel are operating close to the water's edge and using equipment, management measures need to be in place to minimise risk of injury or damage to equipment. Safe systems of work or risk assessments should be provided by HDC for work operations.

9.4 Human Risk

By very nature, humans make errors of judgement that can lead to injury or have negative financial implications. When designing safety processes, management systems need to take into account not only the dynamic nature of open water hazards but also provide an error margin to account for human error and the interaction between environmental and human hazards. Examples of human hazards include, collision between machines and personnel, and foolhardy behaviour, such as making a conscious decision to enter the water, ignorant of the temperature and danger. Research highlights the vulnerability of young people and the impact of both peer pressure and alcohol on drowning statistics.

9.5 Personnel at Risk

The main purpose for conducting risk assessments is safeguarding the welfare of the general public and council officers. Risk management needs to account for work operations where the general public are likely to be present and there is potential for injury.

The risk assessment needs to consider:

- Employees (including machine operators)
- General public

10. Significant Risk Outcomes

10.1 Drowning

Let's start by clarifying our understanding of the nature of open water hazards. Water presents many hazards, which can lead directly or indirectly to drowning. The International Life Saving Federation (ILS) defines drowning as 'The process of experiencing respiratory impairment from submersion/immersion in liquid'.

This means that the drowning process doesn't always result in fatality. A tragic consequence of recovery from drowning can be permanent impaired brain function. Our challenge is to ensure appropriate arrangements are in place to prevent accidental immersion. We must be absolutely clear about the hazard from entering cold water and its potential for great harm.

There are three defined outcomes of drowning, these are:

- Death
- Morbidity (injury)
- No morbidity (no injury)

The following image, the Drowning Chain, describes the inter-linking sequence of factors affecting likelihood of drowning and to tackle drowning, each link needs to be broken.



Table of Drowning Prevention Model

The national 'Water Incident Database'⁵, managed by the National Water Safety Forum records on average over 600 people drown per year, including intentional drowning. Although each of these may be a contributory factor, the major cause of potential risk on any site is likely to be ignorance or misjudgement of

the danger. Analysis consistently shows that up to 80 per cent of people who drown do not intend to be in the water. That is to say they fell in or went in to assist someone else or an animal in difficulty.

One particular higher risk group are males between 20 and 34 and especially where alcohol has been consumed and is linked to warm weather and impromptu waterside activity. These drownings are likely to occur close to home. In terms of education and awareness this group presents difficulties as they are more likely to be swayed by peer pressure in the heat of the moment rather than by formal water safety messages.

Once the drowning process has begun, with the submersion/immersion of the casualty's airway, an intervention must be made as soon as possible to prevent the drowning resulting in a serious injury or death. Personal survival, self-rescue and rescue are interventions that can interrupt the drowning process. However, it is important to note that even after the drowning process is successfully interrupted, the drowning may still result in short or long term injuries to the casualty.

10.2 Cold Water Shock

The largest contributory risk factor that leads to drowning in cold water, is 'Cold Water Shock'. This is due to the difficulty in maintaining a clear airway during hyperventilation (rapid breathing) and the effect on the heart (cardiac arrest) with sudden immersion in cold water. The casualty quickly loses the ability to function, the colder they become. Cold Water shock is the body's response to immersion in cold water and can be observed from temperatures as moderate as 25°C, although the severity of the body's response increases significantly in colder water.

The effects of Cold Water Shock has the following responses:

- Loss of performance
- Swim fatigue and swim failure
- Hypothermia

All rescues described in this policy are land based. There are no direct in-water rescue skills provided to the work team and they will be explicitly told that they are not to attempt an in-water rescue as this would immediately heighten the risk and the rescuer would also be subject to cold water shock.

10.3 Hypothermia

Water is a good conductor of heat and conducts heat away from the body four times faster than air. Hypothermia is when the body's temperature falls below 35°C. Immersion in UK waters, in particular in winter months, can result in hypothermia. The onset of hypothermia will take approximately 30 minutes and can result in unconsciousness and heart failure.

10.4 Impact Injury and Unconscious Casualty

Any fall can result in an impact injury. Any trip or fall that leads to an impact injury is compounded when falling into water. Limb injury can inhibit movement in the water and make extraction difficult. The biggest dangers are actually head injury, which could lead to unconsciousness and ultimately drowning and or spinal injury.

10.5 Infection from polluted water

Water can contain a range of pollutants and microbes that can lead generally to ear, nose and throat infections, sickness and skin infections. A particular hazard at inland water sites is leptospirosis, a bacteria that causes sickness and can lead to Weils disease which can be fatal.

Casualties who have been immersed in water must be taken to hospital if they have:

- Been unconscious
- Inhaled water
- Received a head injury or spinal injury

11. Drowning Prevention Strategy

It is not practicable or reasonable to prevent drowning by denying access to water sites or employing supervision across every water's edge. The purpose of a water safety policy is to ensure a planned approach to proactively considering and managing risk by applying appropriate control measures.

The overall strategy considers the array of options available and application of specific measures for each assessed zone. Control measures will depend on a number of factors, including demographics, environmental hazards and associated risks, accessibility, footfall and human activities.

11.1 Control Arrangements

11.1.1 Fencing

The safest approach to avoiding accidental immersion in water is to erect barriers to prevent entry. However, fencing is expensive and does not necessarily compliment the environment. HDC actually provide a balanced approach to applying fencing at key locations. Fencing is generally used where there is a sudden or direct drop into water.

Good examples of fencing can be seen at Hinchingsbrooke Country Park, where wooden fencing has been reconciled with the environmental ethos of the park, shown below.



Photo Wooden Fencing

11.1.2 Edge Protection

11.1.2.1 Grading

The water's edge is a key factor in determining risk. One of the most important features is the gradient of the slope, either leading down to the water or the gradient actually underwater. Research shows that non-swimmers in particular and weak swimmers can struggle maintaining their balance in standing depth of water.

As there are a number of balancing ponds, an example is Love Farm below, consideration has been given to the gradient approaching the water basin. Safety at Inland Water Sites recommends that a person can stand with their head above the water at a distance of two body lengths from the water line. Grading can be an effective method of controlling the risk of falling into the water.



Photo of Gradient at Balancing Pond

11.1.2.2 Planting

In addition to or as an alternative to grading, planting of aquatic vegetation, particularly with sharp foliage, can be used to provide adequate and aesthetic protection. Where planting is used for edge protection, it is recommended that the vegetation be hostile and dense and a

width of 1m. Mud around the water line also provides an unappealing deterrent from entering the water. There are good examples at Riverside Huntingdon, seen below.



Photo of Edge Protection

11.1.2.3 Footpaths

Footpaths can be designed to steer people away from the water's edge. They provide a clear guide where to walk. It is important that footpaths are well maintained.

11.2 Public Information and Signage

Signage can be used to highlight water dangers to the public and should be considered as part of a coordinated approach. Signs should be designed in accordance with the Health and Safety Signs and Signals Regulations (BS 5499-11:2002), which standardises safety signs throughout Europe. Where signs are to be replaced, where they do not meet the regulations, replacement versions should be compliant with BS 5499.

The RNLI have done a great deal of work in developing a comprehensive guide and format to beach safety signs⁴ which is now used at the majority of UK beaches.

Signs need to include:

- Safety message (no swimming, danger of drowning)
- Location (grid reference number)
- Emergency Action

Additional information can include location of nearest telephone and a map detailing life-saving appliances and help points.

Those responsible for water safety signage are advised to read this document carefully before deciding on additional signage. Any new signage is recommended based on three classifications and linked to categories of activity.

11.2.1 Primary Signs

Places where the public visit because of an associated water based-amenity value such as Regatta Meadows or Riverside Park, St Neots which may be described as attractions in their own right.

Primary signs should be located at either entrance/gateway or at a most logically central point where the greatest number of visitors will see it. Key information on primary signs will include the safety message, either 'Danger of Drowning' and /or 'No Swimming', location grid reference and reference to emergency services with pictorial diagrams for those who find reading difficult or do not have a conversant knowledge of English. Height of the sign needs to consider people in wheelchairs.

It is advised that primary safety signs do not include additional information, such as local amenities. There are signs in place within Huntingdonshire District that include the water safety message on the main information sign and also signs where the water safety has been added as an afterthought. When signs are next scheduled for renewal, they should comply with BS 5499-112002 and be in line with this policy.

An example of good signage can be seen at Paxton Pits, below. The Danger of Drowning and No Swimming message is clear with a pictorial diagram showing that swimming is not intended for this site. The sign is mounted on a post with a PRE appliance, containing reference information.



Photo of PRE and Signage

At Church Lane Huntingdon swimming is undertaken regularly during the warmer months. This sign clearly states the danger of drowning, without prohibiting swimming. The emergency number is provided. It is recommended that a grid reference also be provided.



Photo of Danger of Swimming Sign

11.2.2 Secondary ('reminder' signs)

Located where people are near to water and/or walk on known paths alongside waterways. These locations are not necessarily amenity sites in their own right. Secondary signs should be located at the main access points to walkways and possibly along the way particularly at locations where risk levels might increase, for example, a point where a path is closer to the edge. An example of a secondary sign can be seen at Main Lake, South Beach, and Hinchingsbrooke Country Park.



Photo of Secondary Sign

11.2.3 Nag or Awareness Signs.

Places where a waterway is present but is not a focal point or a walkway and with lowest level of activity. Nag signs should be located at the main access point to a site. The example below is at the Spit, Hinchingsbrooke Country Park, where swimming is known to take place.



Photo of Nag Sign

11.3 Public Rescue Equipment

Public rescue equipment (PRE) has become the default response to providing control measures at inland locations, especially when a drowning incident has occurred.

There is little evidence to suggest that PRE alters perception of risk or that installations improve water safety. The most common types of equipment installed are the Lifebuoy, a circular floatation device, attached to a rescue line and a throw rope. The Lifebuoy was designed for marine purposes, where somebody goes overboard and the rescuer can lower the Lifebuoy down to the casualty, through a vertical drop. Lifebuoys were not designed to be thrown horizontally to casualties, as this may well create injury through collision with the head.

Life buoys are best suited for vertical drops, where there is a steep edge, e.g. locks and marinas or where the casualty is not far from the bank. Research conducted by the RNLI⁶ on coastal PRE, confirms that horizontal throwing of Lifebuoys carries risk to the casualty. Throw ropes are better suited for shallow gradient water edges, where the casualty is not far from the bank. Both the use of life buoys and throw ropes require training to use.

In addition, for PRE to be effective the following factors must exist (RLSS UK Safety at Inland Waters Sites¹):

- i. the victim must be seen by someone
- ii. the victim must be recognised as being in danger
- iii. the victim must remain afloat until rescue arrives
- iv. appropriate rescue equipment must be to hand and in operational condition
- v. the rescuer must have the ability, judgement, strength and skill to effect a rescue
- vi. there must be adequate length of rope with which to reach the casualty
- vii. the weather conditions must be conducive to the rescue and
- viii. the victim must be able to co-operate, i.e. swim towards the rescue device, if necessary, grasp it and maintain hold until towed towards the edge

In some areas PRE is used as a fun floatation device by people using them to throw in and use them as a float, which entices people to enter the water. In addition, provision of PRE encourages a member of the public to engage in a rescue which creates its own safety issues, during an incident. Theft is also a major concern, with PRE being taken from site, in particular throw lines being regularly stolen.

In this context, the Consultant believes provision of PRE should be viewed very much as a last resort in terms of drowning prevention. RLSS UK and the RNLI are designing research to examine the efficacy of PRE with the intention to create a national policy.

A hybrid approach is recommended, where PRE is concerned.

- i. At key locations where PRE is installed, retain the equipment, for example Regatta Meadows and Huntingdon Riverside. At these locations PRE exists and in a number of cases additional PRE is needed and some PRE needs relocating
- ii. Where swimming is known to take place, PRE to be maintained, for example Church Lane, Huntingdon and Coneygeare St Neots.
- iii. At balancing ponds await the outcome of the research noted above, between the RLSS UK and RNLI. In the meantime, run an education programme to highlight the dangers of open water, for example at Loves Farm.

However, the following suggestions may help in reducing the possible human tragedy and on-going financial cost of replacement.

- a) Signage. Incorporate key safety message at locations of Rescue devices (add public information signage to existing Throw-line locations). This has the added advantage in safety terms of making more visible in an emergency.
- b) Enforcement. Consider a zero tolerance approach and always inform the Police on all occasions of PRE theft – providing as much information as possible.

- c) Education. Include awareness and appreciation of the importance of Rescue Equipment in water safety education Programme.
- d) PR. Engage PR activity, possibly, as part of a wider water-safety awareness campaign with other stakeholders, which identifies such theft firmly as unpleasant, anti-social behaviour.
- e) Monitoring. Ensure the continuation of systematic, recorded monitoring by HDC staff. It is important that HDC knows as early as reasonably possible if a device is missing and needs replacing. Furthermore that the device is in an effective, usable condition.

There are no hard and fast rules about inspection periods and a number of factors must be considered including level of risk, likelihood of theft and vandalism, time of year, specific location and so on.

11.4 Recording

Risk assessment is not a one off exercise but a process. To ensure that all risk assessments are up to date, it is important to review and record all assessments and logs, including.

- Risk assessments
- Training logs
- Equipment logs
- Accident logs
- Lessons learnt

12. Consultant

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Yours sincerely,



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13. References

1. RLSS UK Safety at Inland Water Sites (1999). RLSS UK, PP.77.
2. HSE Risk Management (<http://www.hse.gov.uk/risk>)
3. ISO 31000 Risk Management (<http://www.iso.org/iso/home/standards/iso31000.htm>)
4. RNLI Guide to Beach Safety Signs (2007). RNLI, PP64.
5. Water Incident Database (<http://www.nationalwatersafety.org.uk/waid/>)
6. RNLI Public Rescue Equipment (2007). RNLI, PP.50.
7. RLSS UK Safety at British Beaches (1993). RLSS UK, PP.64.