



Risk Assessments for UK Beaches

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1. Introduction

- 1.1 The RNLI has been providing beach lifeguard services in the south and west of England since 2001. In 2006 our lifeguards patrolled 62 beaches, which received an estimated 5.5 million visits. Lifeguarding forms an integral part of the RNLI's "beach-to-open-sea" life saving service.
- 1.2 Between 2001 and 2006 RNLI lifeguards have saved the lives of 256 people and attended 43,125 incidents, assisting a total of 46,927 persons.
- 1.3 The RNLI has announced its intention of doubling its lifeguard service by 2011. However, at this critical stage growing uncertainty about responsibilities for beach safety, compounded by mounting financial pressure on Local Authorities, is creating an extremely precarious environment for the future development of lifeguarding at a time when more people than ever are using the sea.
- 1.4 This increasing use of the sea for leisure brings with it greater risk and the RNLI is responding to requests for assistance from beach owners (private or Local Authority) by providing a range of advisory services.

2. Beach Risk Assessments

- 2.1 The RNLI is encouraging all beach owners to carry out a formal risk assessment which will take into account beaches and associated swimming areas and to put in place any reasonable safety measures identified by the formal risk assessment.
- 2.2 The rationale for conducting a risk assessment include:
 - Providing the basis for a risk management plan
 - Improving safety and reduce the risk of death or injury at the site
 - Ensuring the best use of resources and encourage effective management and cost effective operations
 - Reducing the potential for litigation stemming from accident and management practices
 - Providing guidance for the development of policy, procedure and practices
- 2.3 Beach owners should consider the need for taking on formal advice if they feel they lack the expertise to conduct a risk assessment that meets the specific needs of the beach and coastal environment.
- 2.4 The RNLI stands ready to conduct beach risk assessments free of charge.

3. Conducting a Risk Assessment

3.1 The World Health Organisation offers the following advice in relation to the assessment of hazard and risk in its guidelines for safe recreational water environments (coastal and fresh waters):

‘Assessment of hazard and risk inform the development of polices for controlling and managing risks to health and well-being in water recreation.’

‘The assessment of a beach or water should take into account several key considerations, including:

- the presence and nature of natural or artificial hazards;
- the severity of the hazard as related to health outcomes;
- the availability and applicability of remedial actions;
- the frequency and density of use; and
- the level of development.’

3.2 The Health and Safety Executive has provided some limited guidance on practical risk assessments and also sets out a simple 5 step guide to conducting a risk assessment.

- 1 Identify hazards
- 2 Decide who might be harmed and how
- 3 Evaluate risks, evaluate existing precautions and determine if more is required
- 4 Record findings
- 5 Review or establish a review process

3.3 A beach Risk Assessment follows a similar process and many beach owners currently have a risk assessment programme in place. While most are suitable they often lack a full appreciation of the range of hazards in the beach and coastal environment.

3.4 The scope of the RNLI beach risk assessment process is demonstrated in the tables of appendices 1-4 of this document.

4. Implementing Control measures

4.1 Beach owners will need to develop a plan for the implementation or improvement of controls. This would need to include time frames and responsibilities. It may involve a staged approach to improving controls. Maintenance of controls also needs to be included at this stage.

4.2 A hierarchy of control measures increasing in the level of control range from:

- Safety leaflets
- Public education
- Information signs
- Warning signs
- Prohibition signs
- Emergency phones / communications
- Zoning restrictions on beach usage
- Public rescue equipment
- Trained surveillance
- First aid facility
- Lifeguards (with appropriate equipment)

4.3 The RNLI is potentially able to provide a range of advice on the implementation of control measures. The RNLI have produced a guide to beach safety signs, flags and symbols and is currently developing a similar guide for the deployment of public rescue equipment.

5. Future Developments

5.1 The RNLI is working with a number of partners, including universities in the UK and internationally, to make the risk assessment process simpler and more consistent.

5.2 The RNLI is also working on the final stages of BEAREM to provide the basis for a national database for recording beach incidents.

Further Information

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Appendix 1

Beach & Coastal Hazards

HAZARD GROUPING	HAZARD
Beachfront	Steep Cliffs
	Unstable Cliffs / Rock Falls / Mud Slides
	Unstable and/or Eroded Dunes
	Unsafe Beach Access
	Unsafe Walkways and Lookouts
	Partially Buried or Undermined Fencing
	Unsafe Buildings and Structures
Beach Profile	Sudden Drop-off / Steep slope
	Shallow Sand Banks
	Rock Shelves / Reefs
	Submerged Rocks / Objects / Debris
	River mouth
	Headland
	Mud / Quicksand
Man Made (Coastal) Structures	Utilities Infrastructure
	Groynes
	Jetties / Piers
	Rock Swimming and Paddling Pools
	Buoys and Lines
Water Quality & Water Bourne Hazards	Storm Water Outlet
	Sewage Outlet
	Biological Hazards / Animal Excrement / Agricultural runoff
	Pollution / Litter
Surf Conditions	Tidal Currents
	Surf Zone currents / Rips
	High Surf
	Dumping Waves
	Extensive Tide Range
Weather	Strong Winds
	Storms / Hail / Heavy Rain
	Fog / Mist
	Lightning
	UV Radiation (Sun)
Dangerous Animals and Marine Life	Dogs / Other (uncontrolled) Domestic Animals
	Sharks
	Stinging Fish (Weaver Fish) / Rays
	Common Marine Stingers (Jellyfish)
	Other Dangerous Marine Life
General Hazards	Fire Safety
	Electrical Safety
	Hazardous or Explosive Substances
	Dangerous Litter (glass, disposable BBQs)
	Natural / Man-made Disasters

Appendix 2

Risk Groups Characteristics

GROUP	CHARACTERISTICS
Males	Males feature prominently in coastal incident statistics. This is usually attributed to a greater tendency to participate in risk taking activity.
Very Young	The very young 0-4 years are the highest risk group for drowning in still water environments. This group are vulnerable without constant adult supervision.
16-35 year olds	People in this younger age group, in particular young males, tend to participate both in more physical and more risk taking activities. This risk taking behaviour is often increased when there are groups involved.
Elderly	The elderly tend to be less adventurous, however, often lack the physical skills and abilities to self recover if they get themselves into difficulties.
Tourists / Visitors / Migrants	Tourists are usually unfamiliar with the local environment, often having little or no experience with coastal hazards. They may be identifiable as being improperly dressed for beach conditions; however, with surf clothing being highly available and considered fashionable this is not always the case. Lacking a 'tan' being sunburn and certain ethnic groups may be an indicator, but this is also unreliable. International visitors may also present additional communications difficulties.
Pre-existing Medical Conditions	Pre-existing medical conditions, in particular cardiac conditions and conditions that affect consciousness can increase the risk to an individual. People with physical or mental disabilities may also be at increased risk.
Physically Unfit	Participation in many beach and aquatic activities can be very dynamic and many people are unprepared for the physical demands. They may be identifiable as being overweight or significantly underweight, however, this is not always the case.
Non-swimmers	Any non-swimmer is at risk in the water. Most non-swimmers enter deep water accidentally.
Poor or Weak Swimmers	Poor or weak swimmers may over estimate their ability or under estimate the risks. They may also be overly reliant on surfing equipment, floatation devices, etc for survival.
Novices	Any person learning a new activity may present an increased risk to themselves or others. They may also lack the pre-requisite skills to ensure self safety (such as a suitable level of swimming ability). They are likely to be using sub-standard equipment, especially if the equipment is hired.

Appendix 3

Activities

LOCATION	ACTIVITY	RISK POTENTIAL
Beach and Dune Areas	Sun Bathing ⁽¹⁾ Picnicking Sight Seeing Walking Dog Walking Beachcombing Beach Fishing	Lower Risk Potential
	Beach Games Small Kite Flying Jogging Cycling Rock Walking Rock Fishing Vehicle Parking	Medium Risk Potential
	Contact Sports Large Kite Flying Climbing / Bouldering Horse Riding Wind Powered Vehicles 4WD Vehicles Quad / Dirt Bikes	Higher Risk Potential
Swash & Surf Zone	Paddling Wading	Lower Risk Potential
	Swimming Inflatable users Body Surfing Body Boarding	Medium Risk Potential
	Wave Dodging Cliff, Rock or Pier Jumping Surfing Wind Surfing Kite Surfing PWC	Higher Risk Potential
Beyond Surf Zone	Rowing (oar or paddle)	Lower Risk Potential
	Sailing Snorkelling / Scuba	Medium Risk Potential
	Powered Craft Skiing	Higher Risk Potential

Notes:

(1) While the immediate risk associated with sunbathing is low there are long-term health concerns from any excessive exposure to the sun's UV rays, ranging from skin damage to increased risk of skin cancer.

Appendix 4

Behaviours

BEHAVIOUR	CHARACTERISTICS
Alcohol use	Alcohol is linked to a high percentage of coastal incidents. Alcohol makes a person less aware of hazards and less capable of responding once in difficulty.
Drug use	As with alcohol a person under the influence of either legal or illegal drugs may become less aware of hazards and less capable of responding appropriately, however, the extent of this problem is less well known.
Controlled risk taking behaviour	Controlled risk taking is associated with adventure/extreme sports enthusiasts who follow defined safety rules and tend to understand their own limits and that of their equipment. There is still the chance of equipment failure, miscalculation or other misadventure. Controlled risk taking behaviour lends itself to management through voluntary codes of practices.
Uncontrolled risk taking behaviour	Uncontrolled risk takers fail to take appropriate precautions and often endanger themselves or others through ignorance or by committing acts of bravado. This behaviour is also strongly associated with alcohol use.
Aggressive / Violent Behaviour	Problems associated with aggressive or violent behaviour will be exacerbated by alcohol or drug use. It is also a feature of over-crowding and competition for limited space or opportunities and conflicting activities.
Criminal / Antisocial Behaviour	Coastal areas are not immune to problems that affect other parts of society. The most common criminal behaviours are normally opportunistic in nature and often associated with groups.