



# Visitor Safety Group Guiding Principles



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The Wildfowl & Wetlands Trust



# Visitor Safety Group Members

- Own and/or manage land, buildings and property in the UK and/ or Republic of Ireland
- Have heritage, conservation and landscape objectives and responsibilities
- Are committed to public access
- Are duty holders under H&S law

# Visitor Safety Group Members



# What the VSG does

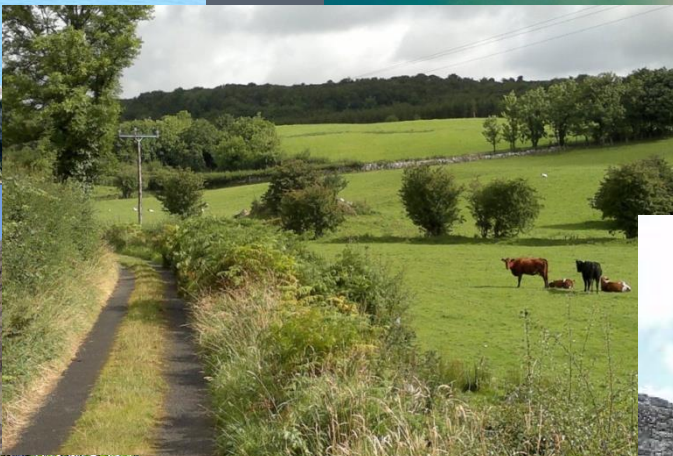
- Providing a focal point of knowledge, expertise and 'best practice' for organisations and individuals with responsibilities for managing the safety of visitors in countryside, parks and heritage environments
- Producing and publishing guidance and good practice applicable to a broad range of organisations
- Encouraging the dissemination and discussion of good practice and 'issues' through:
  - VSCG website,
  - Conferences and workshops
  - Publications

# What makes visitor risk management different?

- Varying public expectations of risk
- Shared responsibilities
- Lack of direct control of the visitor
- Influence of general legislation
- Lack of regulator guidance
- Heritage and environmental constraints



# The range of environments



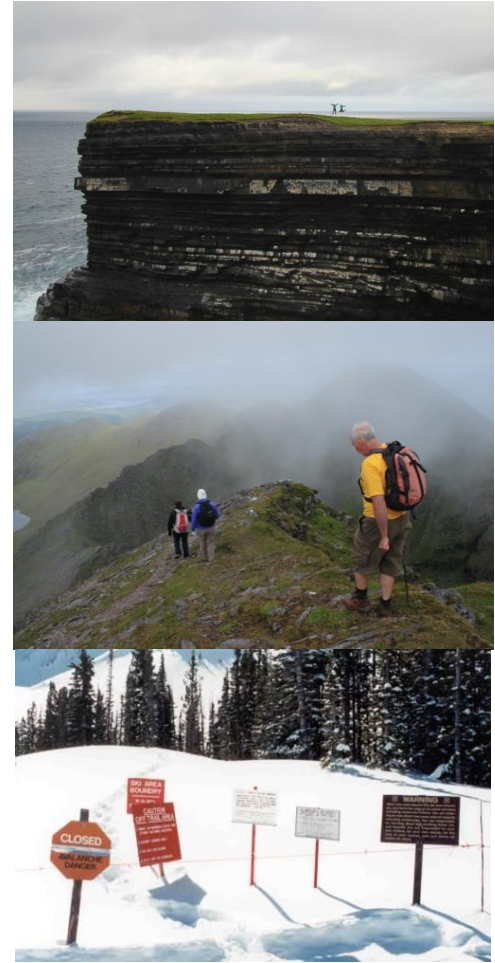
# Why implement the VSG Principles

- Industry best practice
- Agreed framework for a **consistent approach** to risks and hazards
- Wide application from urban parks to wilderness areas
- Principles have been successfully tested in court
- Encourages a balanced and pragmatic approach to the many, often varied and conflicting, factors bearing on visitor risk management

<https://vscg.org/guiding-principles/>

# Fundamentals

- Take account of conservation, heritage, recreation, cultural and landscape objectives
- Do not take away people's sense of freedom and adventure
- Avoid restrictions on access





# 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



# Awareness

- Ensure that your visitors know the risks they face
- 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
- **No ‘nasty surprises’**



# Risk Control

- Assess risks and develop safety plans for individual sites.
- Monitor the behaviour and experiences of visitors to review visitor safety plans
- Risk control measures should be consistent





# Risk Control

- Risk control measures should take account of the wider benefits to society
- Make sure that your work activities do not expose visitors to risk





# Risk control spectrum

## GENERAL LEVEL OF VISITOR USE, LOCATION AND TERRAIN

### Undeveloped

Wild and rugged countryside; remote forests and landscapes. Very low visitor numbers.



### Lightly developed

Wider forest, moorland, coast and countryside; extensive farmed land; remote waterways. Low visitor numbers.



### Moderately developed

Urban fringe; country parks; intensively farmed land; recreational forests; busy waterways. Moderate visitor numbers.



### Heavily developed

Urban environment; easy terrain; surfaced paths; city-centre buildings and waterfronts; staffed facilities. High visitor numbers.



## LEVEL OF VISITORS' SKILL, SELF-RELIANCE AND PERSONAL RESPONSIBILITY

### Advanced

Competent personal safety skills, planning, training and experience are expected. Visitors accept responsibility for their own safety.



### Moderate

Skills, awareness of risks and self-reliance are important. Visitors understand surroundings and take some responsibility for their own safety.



### Minor

Self-reliance, awareness of risks and personal responsibility encouraged but not expected. Visitors have some experience and knowledge of surroundings.



### Minimal

No previous experience is expected. Visitors should follow advice and act responsibly.

## LEVEL OF MANAGEMENT INTERVENTION

### Minimal

Physical safety measures unlikely. Routine information about site conditions not likely but arrangements made for exceptional circumstances.



### Minor

Physical safety measures only likely for high risks. Limited information and signs possible.



### Moderate

Some physical intervention for significant risks likely. Possibly some warning signs, leaflets and occasional staff presence.



### Advanced

Physical safety measures likely. Managers actively manage risk for first time visitors. Likely to be warning signs, advance information about hazards and regular staff presence on site.

# Principles into practice

- Thinking about your site
- Identifying risks and hazards
- Zoning
- Visitor safety risk assessments
- Control measures
- Consistent, pragmatic
- Inspect and maintain, keep records

# Put slide here on VSG publications



WOODLAND  
TRUST

Nick Hall, HS&E Manager





# Adopting VSG Guiding Principles on Woodland Trust sites.

- Staff competence
- Site records
- Site Management
- Case study





# Staff competence

All Estate Staff are chosen carefully in order that they have the basic skills and experience necessary to manage open access sites

Everyone receives an extensive training program that includes risk assessment, tree safety management, forestry safety and the principals of the VSG

Regular updates are given to all Estate staff via Estate Managers meetings and what we call our “NODD’s & SODD’s” days.

# Records and Resources

- Every Woodland Trust site is recorded on our Estate Database (ED)
- ED contains all of our site information including hazards, tree safety, management programs, work activities etc.
- ED produces a risk assessment and hazard map for each site
- This enables Site Managers to make decisions about hazard intervention and pass information on to those who need it such as contractors or event organizers
- ED also records and manages site inspections, records and a site diary. ED II will be on line in 2020 and directly incorporates VSG principals into its structure.

# Site Management

- All sites are subject to a program of inspection and maintenance
- Intervals vary from annually to carry out roadside tree safety inspections to every 5 years for infrastructure such as bridges
- Where necessary specialists such as engineers are brought in to provide detailed information on technical subjects.
- Contractors are selected carefully to ensure they are both safe and competent – ensures work is fit for purpose.

# Case Study – using water hazards as an example



# Please think about.....

- How much risk do you think this site represents?
- Given its location, who do we think is likely to access it?
- What would our concerns be?
- How far would we intervene to manage those risks?



# COED FELINRHYD AND LLENNYRCH, GWYNEDD



Coed Felinrhyd and Llennyrch is a 310 hectare (765 acre) property above the Vale of Ffestiniog in the Snowdonia National Park. Stretching from Llyn Trawsfynydd in the south-east almost to the confluence of the Prysor and tidal Dwyryd rivers in the north-west, it is one of the Trust's largest woods in Wales. It is located near the village of Maentwrog in Gwynedd, east of Porthmadog and north-east of Harlech.



There are relatively few paths in this steep-sided valley. The woods are lightly used, but are being promoted more actively for summer visitors. The main path that climbs up the valley is moderately strenuous. There is some use of the large waterfalls and torrents higher up the valley for adventure sports including gorge scrambling.



## **VSG guiding principles and risk control matrix**

The site would be considered as a lightly developed location with currently a low level of visitor use. The terrain would be considered as rural at low valley levels, becoming more rugged further up the valley.



## **risks on site**

The most easily accessible water features and associated risks on site are:

The river near the main entrance – the main hazard is an inadvertent fall from height into water, particularly by children if not adequately supervised

Falls from height at or near the viewpoint above the Rhaeadr Du waterfall



Slips, trips and falls into fast-flowing  
water above the waterfall

Entry to the deep pool below the main  
waterfall (mentioned on wild swimming  
web sites)



Deliberate entry to the water in the waterfall and gorge area as part of externally organised adventure activities (outside the Woodland Trust's responsibility)

On all parts of the river, there is the possibility of sudden, unexpected rises in river level in flood conditions or caused by outflows from Maentwrog power station or the dam upstream





# Images.



# What do we do??

- Warning signs at entrances only – we feel the hazards are natural and obvious
- We only intervene where there are “Nasty Surprises” the fence in the images protects against a concealed significant drop
- We have clear and detailed records on ED that enable us to explain the rationale behind our decisions and defend ourselves if need be.
- Record keeping is vital to support decision making and protect your organisation.

Type of hazard	Specific hazard	Description	Action	Residual risk level
Naturally occurring hazards	River / stream	Afon Prysor runs in a very deep and sheer gorge (Ceunant Llennyrch) with a number of notable falls and slides. Maintained paths follow the line of the gorge with steep drops in places down to the river to the north of the path. A number of desire line paths (used mainly by gorge walking groups) also dip in and out of the channel. The water levels in the channel can change quickly and without warning following heavy rain if the level of water in Llyn Trawsfynydd overtops the dam, although all maintained paths are well above the flood level. A number of side streams flow mainly NE to join the main river and many originate in wet flushes and mires. Post and rail fencing has been installed at the Rhaeadr Du viewpoint to define the path edge at one of the most precipitous points.	Annual inspection of safety fencing at Rhaeadr Du. Fencing in good condition with no missing bars or loose uprights. Steep drop signage is in place at the entrance to the woods but the drops are part of the natural topography of the site.(2013)  Annual inspection of safety fencing at Rhaeadr Du. Ensure paths in good condition and well-defined (2018)	Medium
Naturally occurring hazards	Cliff	Rock outcrops, very steep ground and subsidiary streams in small gorges throughout the site.	Steep drop signs at all public entrances, faded / damaged but serviceable. Consider need to replace these as most steep drops are natural phenomena (however, some steep path edges present) (2013).	High
Man-made hazards	Dams	Maentwrog HEP station discharges outflow water to Afon Prysor at rapid speed and high volume when in operation (intermittent). River flows in Afon Prysor are low (river is dammed at Trawsfynydd and discharge is via Maentwrog HEP station downstream, with little or no compensation flow), but sudden discharges possible if need to release water from Llyn Trawsfynydd, with sudden rise in river depth and flow. Occasional natural flood flows also possible following prolonged periods of rain, when the lake can overtop the dam.	Check steep drop / water hazard signage in place at main site entrances / approaches to river. Every two years (with safety fencing) (2018).	Medium
Man-made hazards	Footbridges	Footbridges over side streams on footpath known as Llwybr Gwyndaf following Afon Prysor: a) platform; b) 2 handrails; c) 1 handrail; d) 1	Inspected - chicken wire in place to reduce risk of slipping. No sign of	Low

Management Units

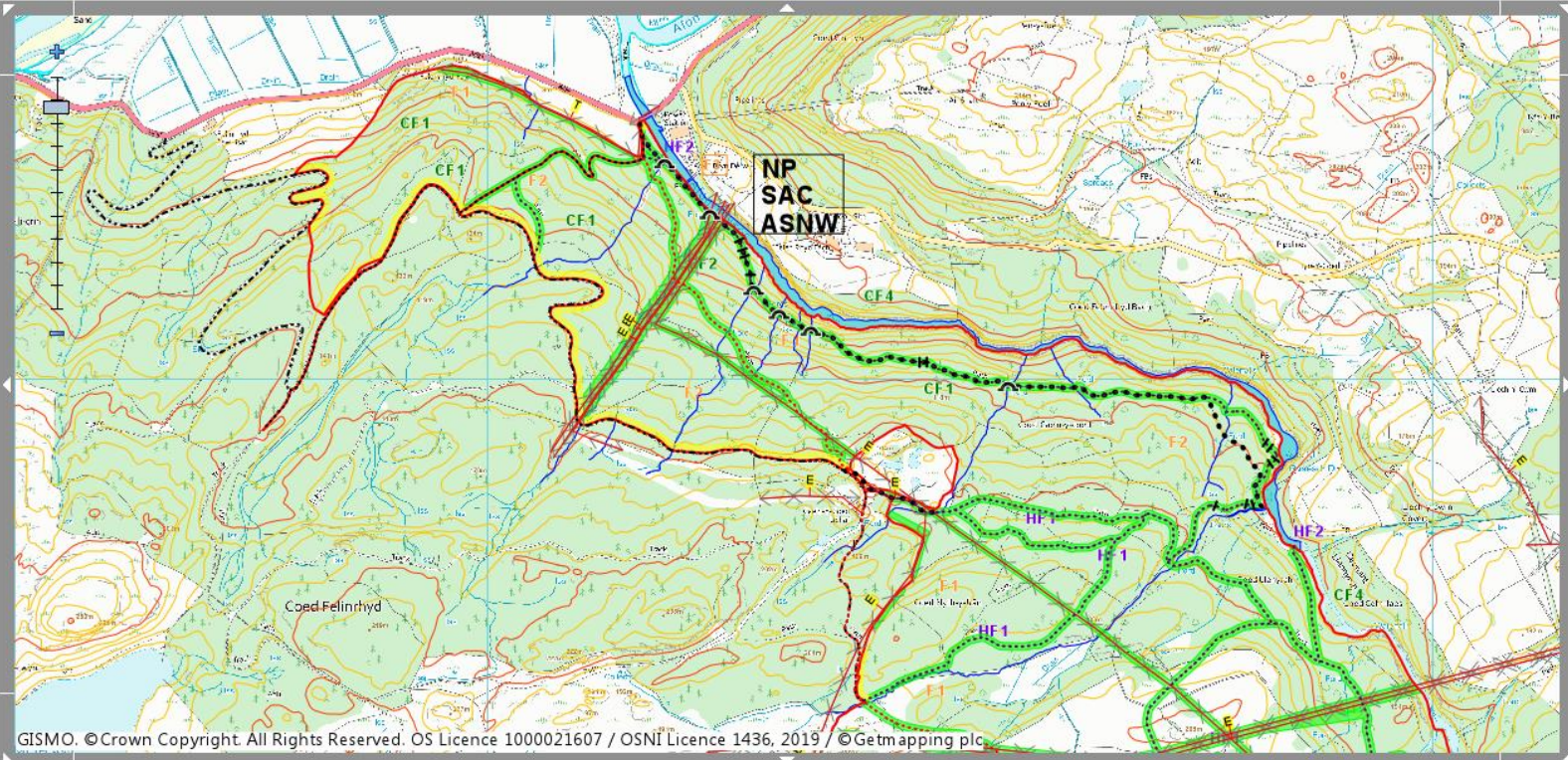
You are in: [Safety](#)

Other Sites  ED sites

	Location	Fire Risk	Biosecurity Zone	Hazards	Hazard Map	Authorised Date	Authorised By	Review Date	Authorised	
+	Coed Ceunant 4437	Llanbedr, Dyffryn Clwyd	High	Green	15	<a href="#">Map</a>	01/04/2016	Eryl Roberts	01/04/2021	<input checked="" type="checkbox"/>
+	Coed Cilgelynnen 4302	Llanychaer	Medium	Green	7	<a href="#">Map</a>	29/10/2014	Eryl Roberts	29/10/2019	<input checked="" type="checkbox"/>
+	Coed Collfryn 5215	Dol y Wern, nr. Chirk	Medium	Green	9	<a href="#">Map</a>	29/02/2016	Eryl Roberts	28/02/2021	<input checked="" type="checkbox"/>
+	Coed Creuddyn 4315	Falcondale	High	Green	10	<a href="#">Map</a>	07/11/2014	Eryl Roberts	07/11/2019	<input checked="" type="checkbox"/>
+	Coed Cwr y Pwll 5248	Llanfaelog, Rhosneigr	Medium	Green	8	<a href="#">Map</a>	04/04/2017	Eryl Roberts	04/04/2022	<input checked="" type="checkbox"/>
+	Coed Cymerau Isaf 4116	Rhyd y Sarn, Blaenau Ffestiniog	Medium	Amber	13	<a href="#">Map</a>	04/04/2018	Eryl Roberts	04/04/2023	<input checked="" type="checkbox"/>
+	Coed Dolifor 4085	Llanwrthwl, nr Rhayader	Low	Green	3	<a href="#">Map</a>	04/11/2016	Eryl Roberts	04/11/2021	<input checked="" type="checkbox"/>
+	Coed Dolyronnen 4194	Tal y Wern, Machynlleth	Low	Green	4	<a href="#">Map</a>	11/12/2014	Eryl Roberts	11/12/2019	<input checked="" type="checkbox"/>
+	Coed Dyfodol Sarnau 5442	Sarnau	Low	Green	5	<a href="#">Map</a>	20/02/2015	Eryl Roberts	20/02/2020	<input checked="" type="checkbox"/>
+	Coed Elnernion 4174	Trefor, Caernarfon	Medium	Green	9	<a href="#">Map</a>	03/04/2018	Eryl Roberts	03/04/2023	<input checked="" type="checkbox"/>
+	Coed Felenrhyd & Llennyrch 4	Maentwrog	High	Amber	20	<a href="#">Map</a>	22/07/2016	Eryl Roberts	22/07/2021	<input checked="" type="checkbox"/>
+	Coed Ffos Las 5670	Carway	High	Amber	9	<a href="#">Map</a>	10/10/2017	Eryl Roberts	10/10/2022	<input checked="" type="checkbox"/>
+	Coed Friog 4387	Fairbourne	Medium	Green	12	<a href="#">Map</a>	26/02/2016	Eryl Roberts	26/02/2021	<input checked="" type="checkbox"/>
+	Coed Geufron 5299	Penparcau	High	Green	10	<a href="#">Map</a>	03/07/2019	Kirsten Manley	03/07/2024	<input checked="" type="checkbox"/>
+	Coed Glaslyn 4219	Llanerfyl	Medium	Green	3	<a href="#">Map</a>	11/12/2014	Eryl Roberts	11/12/2019	<input checked="" type="checkbox"/>
+	Coed Glyn Gwennws 5336	Pen y Cae,	High	Green	3	<a href="#">Map</a>	23/02/2016	Eryl Roberts	23/02/2021	<input checked="" type="checkbox"/>



- Ordnance Survey Mapping
- Legal Map - England & Wales
- Legal Map - Scotland
- Management Map - England & Wales
- Management Map - Scotland
- Features Map - England & Wales
- Features Map - Scotland
- Site Risks Map - England & Wales
- Site Risks Map - Scotland
- Visitor Map - England & Wales
- Visitor Map - Scotland
- Statutory Declaration Map
- eWGS Applications
- BWW Applications
- SFGS Applications
- PAWS Assessment Map
- PAWS Strategy Map
- Significant Trees Map
- Woodland Trust
- NED Sites
- Annotation



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thanks for listening

Q&A

# A mixed method study into public risk perception of the marine environment at Brean and Berrow Beaches and interactions with hazard controls



Deborah Smith

MSc Environmental Health dissertations -UWE; Department of Health & Social Sciences December 2019



# Contents

## Introduction and background

- Study location and rationale
- Hazards and risk at Brean and Berrow
- Beach users and duties to visitors
- Safety controls

## Research

- Question and objectives
- Scale of the mud problem
- Beach safety benchmark
- Risk assessment
- Experiences and perceptions
- Professional perspective

## Conclusion and recommendations

## Questions



## Study location



- Large tidal range ( $\sim 14.05\text{m}$ ) - a large difference in height between low and high tide.
- Sea recedes  $\sim 1.5$  miles away from shoreline
- Flat beach - tideline moves very quickly catching people out.
- Beaches stretch 7 miles
- Entrapment occurs when people venture towards the water at low tide but reach the exposed mud flats before they reach the water.

## Rationale

- Signage at both beaches warn of sinking mud.
- Perceived that walking in mud is down to stupidity, not reading the warning signs or ignoring them
- Beach wardens frequently warn people that they are entering dangerous areas.
- Media coverage of incidents
- A fatality of a child in 2002
- Hovercraft run by Burnham Area Rescue Boat (BARB), Burnham-on-Sea Coast Guards, Burnham-on-Sea Lifeboat.
- Severe hazards and risks - Incidents suggest public do not understand risks involved
- The Royal Life Saving Society Australia (2008) & Matthews *et al.* (2014) - Lack of evidence supporting the effectiveness of water safety signs and needs further research



# Hazards and Risks

- Sensible beach use should be encouraged (wellbeing) and risk carefully managed.
- Warning signs can highlight hazards and risks and allow us to modify behaviour.
- Controls - missed or ignored.
- Only 40% of beach users noticed safety signs - maybe less effective than authorities may assume (Matthews *et al.* 2014)
- Not understanding safety precautions (Learning disabilities and Autism).
- Risk perception (Attitudes about risks and hazards)
- Raw knowledge - what people know
- Calibrated knowledge - what people think they know about a risk.
- The risk thermostat
- Optimistic bias occurs - overly positive view of themselves, 'It won't happen to me'.
- Ignoring warning signs - further help is needed or the rules need revision
- Heinrich's pyramid - a strong correlation between types of incidents



## Hazards and Risks at Brean and Berrow

- Hazards: mud, tides, sand and weather elements
- Multiple factors that can affect tides - Average beach goers will not understand the processes and therefore the risks.
- Most coasts have 2 high and low tides daily - high and low water occurs slightly later each day.
- Tides can be predicted (tide timetables) - Meteorological effects can cause different tidal levels from predicted levels
- Tides are complex - asking the average beach users to check the tide times may be ineffective.

### Consequences for entering the sea and mud

- Stuck
- Exposure
- injury
- Exhaustion
- Dehydration
- Hypothermic
- Hydrostatic squeeze
- Hidden hazards
- Drowning / near drowning



## Beach users

- Residents, day trippers, and holiday makers
- Tourists - 'at risk' group (inexperience, unfamiliar activities, language barriers and holiday mode)
- Influxes of new holiday makers
- Seasonality – higher water incidents in summer.



## Duties to employees and visitors

- *Health and Safety at Work etc Act (1974)* - a duty to ensure, as far as reasonably practicable, that the public are not put at risk.
- *The Management of Health and Safety at Work Regulations (1999)* requires a assessment of risk to health and safety.
- *Occupiers Liability Act (1957)* An occupier of premises has a duty of care to any visitors using the premises
- **Civil law** - injured persons can claim for damages where they were-owed a duty of care and a breach led to injury
- If it is reasonable to foresee that harm, it is fair and reasonable to impose a duty of care on the operator
- Prevent visitors straying into danger and reduce risks as low as is reasonably practicable ("ALARP")



## Safety controls – Brean and Berrow

- **Signage** - an administrative control, ranked low on the hierarchy of control
- When hazards cannot be eliminated or substituted signage can be valuable (limited research with effectiveness and compliance).
- Problems - include not conforming to an identifiable standard, confusion (too little/ too much/ incorrect).
- **Warden service** and **lifeguards** - Prevents access
- The RNLI (2019) work with LA's - provide assessments for beaches (when requested) and offer recommendations and safety advice to work out what safety measures work for a particular beach.
- **Safety leaflets** (both beaches) - cheap to produce. easy to distribute, versatile, portable, and contain more information than posters
- **Educational** - Emergency Service Days, open days by local rescue services.
- Talks at local schools
- May only be reaching a small percentage of beach users.



## Research question

What is the public perception of risk related to marine mud and the sea at Brean and Berrow beach?

- why members of the public put themselves at risk by walking in marine mud and sinking sand at Brean and Berrow beach despite risk controls being in place. – Are controls adequate to inform beach users of the hazards and risks.

## Objectives

1. Understand the scale of people entering the mud in the UK and at Brean and Berrow beach.
2. Ascertain the benchmark for beach safety.
3. Identify hazards and associated risks on Brean and Berrow beach and beach entrances. Document current safety controls for the sea and marine mud, evaluate whether these meet the beach safety benchmark and identify residual risk.
4. Understand intentions of beach users, their understanding of hazards and risks, and interaction with current safety warnings.
5. Obtain opinions from those with expert knowledge as to why people enter the marine mud at Brean and Berrow and obtain further information about the hazards on these beaches.

# The scale of the problem: Data requests and public data analysis

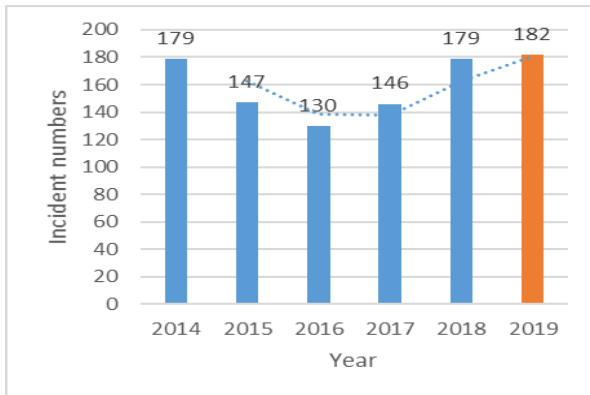
## Method

- Requested UK mud call-out figure - Maritime Coastguard Agency.
- Mud call-out details at Brean and Berrow requested from:  
Burnham-on-Sea RNLI Lifeboats, Maritime and Coastguard Agency, RNLI lifeguards, Sedgemoor District Council
- Analysed call-out details reported on Facebook by the Burnham-on-Sea coastguard and BARB
- Mud preventative actions were requested from the RNLI Lifeguards and beach wardens.

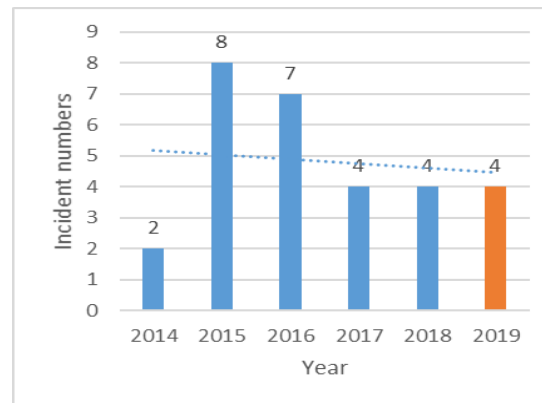
## Results

### Maritime and Coastguard Agency figures

Call-outs for 'person stuck in the mud' in the UK



Call-outs for 'Person Stuck in Mud' (Brean Down to B-o-S Light House).

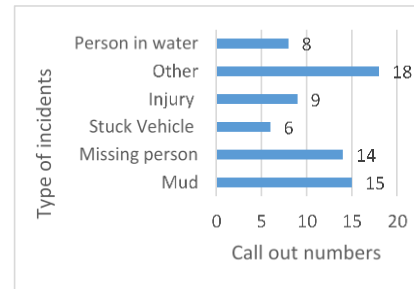


## The scale of the problem

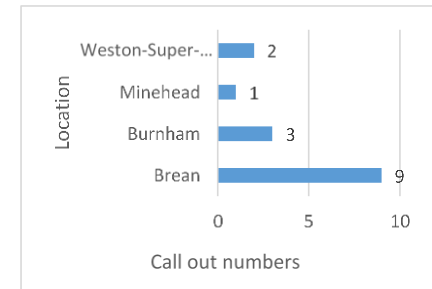
### Burnham-on-Sea Coastguard – Facebook

- 70 call-outs (including calls stood down) between 1/1/19 and 30/10/19.
- 15 involved mud.
- Brean - most incidents involving mud.

Call-out types



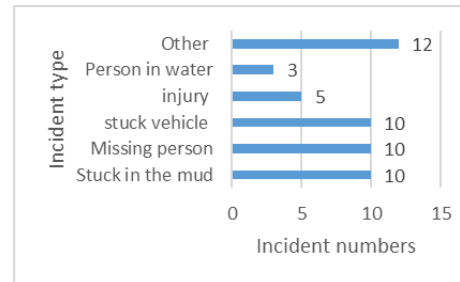
Incident locations



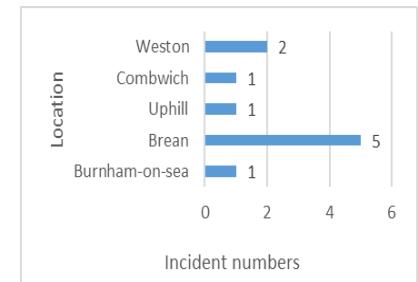
### BARB - Facebook

- 50 call outs (including calls stood down) between 1/1/19 and 30/10/19.
- 10 involved mud
- 5 incidents took place at Brean.
- Figures do not tally with the Maritime and Coastguard Agency

Call-outs types



Incident location



## The scale of the problem



### Lifeguards

- 12 lifeguard actions (mud entrapment) since 2017 at Berrow.
- Preventative actions – at Berrow

Year	Face to face	Loudspeaker	Sign/flag	Move signs / flags	Other P/A	Total
2017	3,192	79	2,653	1,003	23	6,950
2018	4,582	64	2,347	1,438	2	8,433
2019	3,856	36	2,755	1,599	209	8,455

### Lifeboats

- 2 callouts (mud): one at Comwich (person stuck) and one at Burnham-on-Sea (horse stuck).
- January 2017 to June 2019.
- Stood down countless times which isn't recorded.



**Beach warden Brean** - No figures recorded

**Sedgemoor District Council** - *'Preventive actions in excess of 1500 announcements (6-month season)'*.

## Beach Safety benchmark

### Method

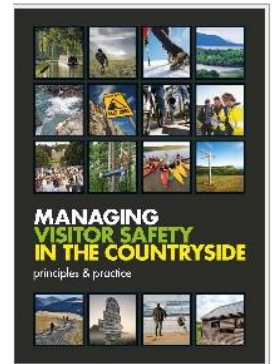
A literature- based study to ascertain the benchmark for beach safety

- Visitor Safety in the Countryside Group (VSCG).
- the International Organization for Standardization (ISO),
- The Royal National Lifeboat Institution (RNLI),

### Results

Managing Visitor Safety in the Countryside Principles and Practice, (VSCG Visitor Safety in the Countryside Group, 2014)

- Consistent approach
- Balancing benefits and risks to provide overall benefits
- Sensible, proportionate and appropriate management
- Visitors should be aware of the risks they will face
- Visitors have to behave responsibly
- Deciding what precautions are reasonable can be very tricky,
- Not to spoil 'the remote'



## Beach Safety benchmark



### BS and ISO International Standards

- **Water Safety Signs and Beach Safety Flags Part 3: Guidance For Use (2014)**
  - standardized method of signing with appropriate text.
- Signage should allow hazards to be recognised and appropriate avoiding action to be taken.
- Used appropriate information
- Guidance on: shape, colour, viewing distances, location, positions, lighting, maintenance, and design and multiple signs.
- Foreseeable behaviour and visual impairment should be considered.
- **Graphical Symbols-Safety Colours and Safety Signs 3864-1** - safety identification colours and meanings.
- **National Water Safety Signs (ROSPA and BS ISO, 2008).**



Quicksand and mud/deep mud or silt hazards symbol



## Beach Safety benchmark

A guide to beach safety signs, flags and symbols v.2 (RNLI Lifeboats, 2007)

- Guidance on how to standardise beach safety
- Lack of effective, consistent signs and safety flags identified as major factor to incidents.
- Benefits of standardising the design and content - beaches will become safer.
- Signs should highlight hazards, prohibited actions, inform of services and information.
- A variety of signs - (positioned at entrances and along the beach)
- Signage: primary entrance, secondary entrance, reminders, mobile, directional and symbol.
- A risk assessment (RNLI, 2007).
- Primary and secondary signs are divided into sections and information type and colour
- Signs style can be single or double sided (care should be taken to ensure visibility of the reverse)
- Beach flags can indicate dangerous conditions and zones.

Primary entrance signs: single panel



Lifeguard-patrolled swimming and body board zone or lifeguard on duty.



'Dangerous conditions: do not enter the water'



# Risk Assessment

## General Risk Assessment

- Adverse weather
- Hazardous items
- Moving vehicles entering and on the beach



## Risk Assessment (Mud and Sea)

- Observations of current risk controls were recorded. Adequacy of these controls and residual risk were categorised
- Each control was considered separately (assumed people experienced one).
- 10 entrances were identified.



# Risk Assessment

## Entrance 1



No mud warning

## Beach

No signage

Beach warden patrolled

## Entrance 2



## Entrance 3



Warning sign  
*'Dangerous sinking sand and mud exposed at low tide'* (only on some entrances)



Entrance with no signage  
(except location name)

# Risk Assessment

## Entrance 4



- Shared pedestrian and vehicle access
- pedestrians were not handed leaflets.





# Risk Assessment

- Brean - text dominated which may impact on likelihood of it being read.

**Water Safety**

Although the water at Brean contains silt stirred up by the tidal movement, the water quality is good and safe for bathing.

Remember never swim alone or within one hour of eating a meal. Supervise children at all times and never attempt to reach the water when the tide is out!

Keep dinghies close to the water's edge and do not allow them to drift out to sea.

**THIS BEACH IS NOT LIFEGUARDED!**

**Dogs**

Dogs are very welcome on the beach all year round. Please clean up any fouling immediately and do not allow your dog to annoy other beach users. Only let your dog off the lead when well away from other people. Any dog deemed by the warden to be a danger to others may be asked to leave the beach.

**Brean Down**

A bracing walk awaits you along The Down with incredible panoramic views. Please never attempt to climb the rocks and stay well away from the cliff edges. Never let your dog off the lead. The tide rises faster towards The Down so if you are parked on the sands remember to return to your car 2 hours before high tide.

**Phone numbers**

If you encounter any problems during your day on the beach, please phone the Beach Warden with your location quoting the number on your nearest safety post (see map).

Beach Warden 07774 284891

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"Leave nothing but footprints  
Take nothing but photographs  
Make nothing but time!"

Brean Parish Council - www.brean.org

**Brean Parish Council**

## Welcome to Brean Beach

### Have Fun & Stay Safe

**SAFETY INFORMATION**

**Children**

As on any beach children must be supervised at all times. Never leave children unattended or allow them to walk out on the mud flats.

For lost children phone 07774 284891

**NEVER TALK TO STRANGERS!**

**Car Parking**

Parking on the beach is permitted but there is a strict 15mph speed limit. The road traffic act applies to the area and any speeding or dangerous driving will be reported to the police immediately. Please drive with extreme caution and be vigilant for children playing and building sand castles leaving exposed holes in the sand. Never attempt to drive on the mud flats, even a 4x4 will get stuck and recovery is very expensive.

**Fires & BBQs**

Only contained barbecues are permitted, away from the vegetation on the sand dunes. Please do not dispose of hot barbecues in the dustbins.

**NO OPEN FIRES!**

**Activities**

We hope you enjoy your day on Brean Beach but please observe the following information for the safety of all beach and foreshore users.

**Land Yachts and Kite Buggies.** Only members of The Brean Land Yacht Club and S.W.A.T.K. may sail on Brean Beach. Members may only sail at organised meetings, must abide by club rules and only use areas of the beach authorised in the bye laws.

**Quadbikes and all unlicensed vehicles** are prohibited at all times in the interest of safety for other beach users.

**Horse Riding.** Strictly no cantering or galloping near the dune area. Please keep well away from other beach users.

**Power Kites** are permitted but may only be used well away from the dune area and other beach users.

**Parachute and gliding sports** including parasailing and microlights are prohibited at all times in the interest of safety for other beach users.

**Jet Skis.** In the interest of safety, jet skis are not permitted on Brean Beach. Jet skis will not be allowed access through the council entrance.

**Remote control cars** are permitted but may only be used well away from the dune area and must not disturb residents or other beach users.

**Brean Beach Wardens** have the authority to stop or relocate any activity or behaviour deemed by them to be potentially dangerous or annoying to other beach or foreshore users.

**Activities must carry suitable third party insurance cover and produce this on request.**

Brean Parish Council cannot accept any liability for loss, damage or accident to persons or property

**Map:** Shows Brean Beach layout with key: Beach safety marker posts, Entrance, Vehicle Free Area, and various safety posts.

# Risk Assessment

## Entrance 5

One sign - warning of the dangers of mud



- Pedestrian entrances rely on signage.
- Single sided triangles on the beach positioned a distance from the entrance, can be missed .
- Lack and single sided signage may contribute to people entering the mud as they have not been informed of the danger.

## Entrance 6 One warning sign



## Entrance 7 No warning sign



## Entrance 8 One warning sign



## Beach signage





# Risk Assessment

## Entrance 9 (Berrow beach)



- Warning signage clustered with other signage impeding the effectiveness.
- Vehicle owners and pedestrians may focus on avoiding collisions rather than reading safety information.



# Risk Assessment

## EMERGENCIES

Remember H. M. Coastguard are responsible for dealing with marine emergencies. Dial 999 and ask for the Coastguard or call ch. 16 VHF.

## USEFUL NUMBERS

Police: 01823 337911  
 Doctors' Surgeries:  
 Love Lane, Burnham-on-Sea: 01278 795445  
 Peppercall Road, Highbridge: 01278 783220

## FAMILY SAFETY

### Children should be supervised at all times

- Bins and some posts are lettered and numbered.
- Please note the nearest one to you.
- Explain to your children how they can find you if they get lost and remember yourself, in case you need to report an incident to the beach staff or police.
- Don't forget the sun cream and sun hats.
- Do not attempt to reach the water's edge at low tide.

We hope you enjoy your stay on our beaches.

## The beaches at Burnham-on-Sea, Berrow and Brean are "family beaches"

Staff are there to ensure you enjoy a safe and enjoyable visit.  
 Please report any beach or dune related incidents to them or the Police.

## BERROW

- Respect the warning notices.
- Do not attempt to reach the water's edge at low tide.

## BREAN

- Rock Sea Defences, Brean Beach
- Respect the warning notices and keep off the rocks as they can be dangerous, especially when wet.
  - Do not remove pebbles or stones from anywhere on the beach.
  - The tide rises faster towards Brean Down.
  - Climbing is not allowed and is extremely dangerous.
  - Visitors to Brean Down should use the steps or roadway near the Bird Gardens.
  - Stay well away from cliff edges.

## RIVER AXE

- Do not attempt to cross the River Axe on foot from near Brean Down to Uphill.
- Deep soft mud and very fast rising water have in the past proved fatal.

## WATER SAFETY

- Do not swim alone.
- Do not swim within one hour of eating.
- Tide times are displayed at various locations on the beaches.

**Sedgemoor**  
IN SOMERSET

Published by Sedgemoor District Council, Bridgwater House, King Square, Bridgwater TA8 3AP. Telephone: (0145) 4081250

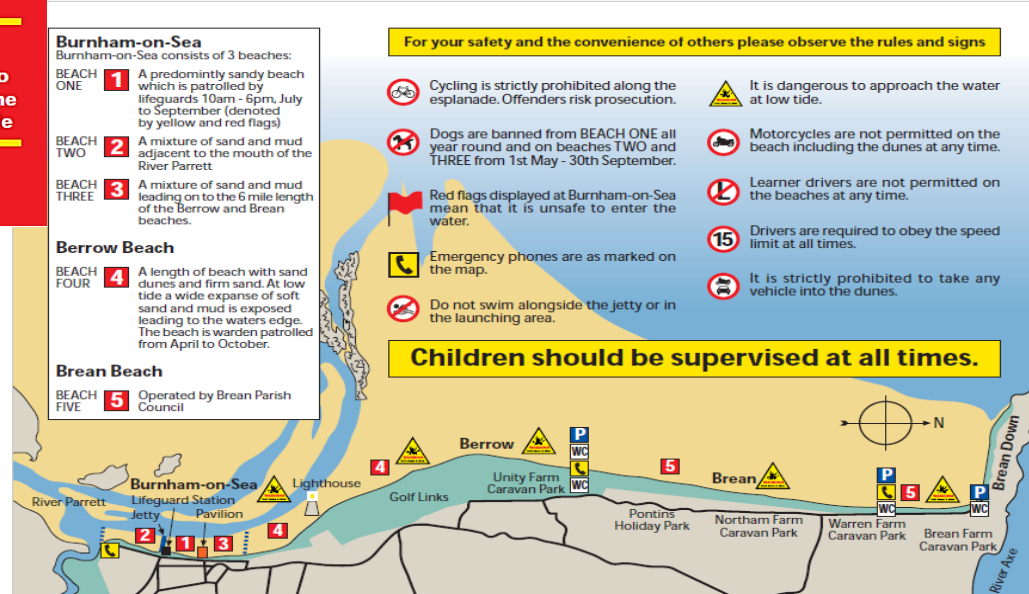
# BEACH SAFETY



**Caution!**  
 For your own safety do not attempt to reach the water's edge at low tide

**Sedgemoor**  
IN SOMERSET

Leaflet produce by Sedgemoor District Council





# Risk Assessment



- Maps - whole beach is yellow (may be interpreted as sand)
- Red flags = 'Dangerous conditions do not enter the water' (RNLI, 2007).
- Confusing - could interpret swimming is only prohibited and walking to or near the sea (via the mud) is acceptable.
- Risk-reduction education needs to be made personally relevant to the target audience

# Risk Assessment

## Entrance 10



## Beach signage



- Guidance allows single sided signs to face the beach but should be fixed in a position that best suits the beach (RNLI, 2007).
- Foreseeable visitor behaviour would focus on the sea rather than walking around the sign to read it
- Further down the beach, text size and symbols do not convey the safety message.
- Ineffective positioning

## Conclusion

- Different entrances have different levels of controls
- Some controls do not comply with beach safety standards. Poor positioning, a lack of controls (at some entrances), and even standardised signage may have misleading information that can contribute to people entering the mud.

# Beach users experience and perceptions

## Method

- Questionnaires - why people had entered the mud (Ethical consideration and tactical questioning)
- Collected: demographics, postcode, intended activities, perception of risk and hazards and the consequences, and interactions with controls.
- Conducted at low tide when mudflats and sinking sand exposed
- Sampling targeted people that had entered the mud.

Participant catchment

## Results

## Participants

Number of participants: 16

Age range: 18 – 65

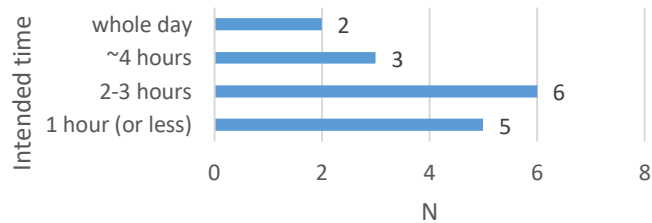


# Beach users experience and perceptions

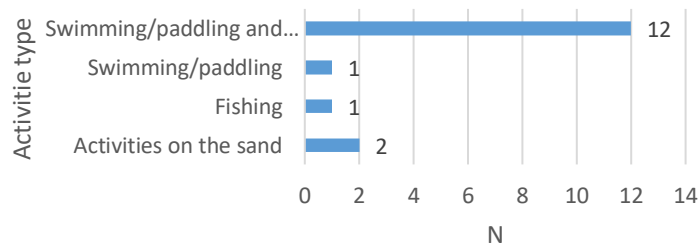
## Holidaying

- All participants on holiday apart from one (day trip).
- Participants stayed at 7 different local holiday locations - 1 participant received beach safety information - 'when the sea is out and inflatables'.

## Time participants intended to spend on the beach



## Intended activities



## Reasons entering the mud

Category	N
Wanted to go in/near sea Saw the sea and walked straight'	4
Confusion 'Saw red flags, (can't swim) but wanted a paddle'	1
Exploring 'Couldn't hear lifeguard warning'	5
Dogs	2
Kids 'Chasing after children'	3
Unknown	1

## Beach users experience and perceptions

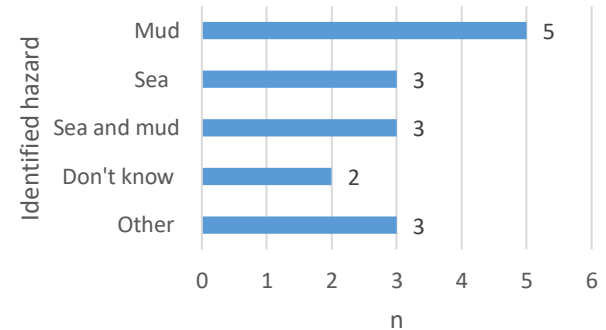
### Mud warning signs

Category	N
Saw warning signs.	8
Classified red flags as warning sign	1
Saw warning sign - did not read it.	1
Did not see any warning signs.	8

### Why participants had ignored warning signs

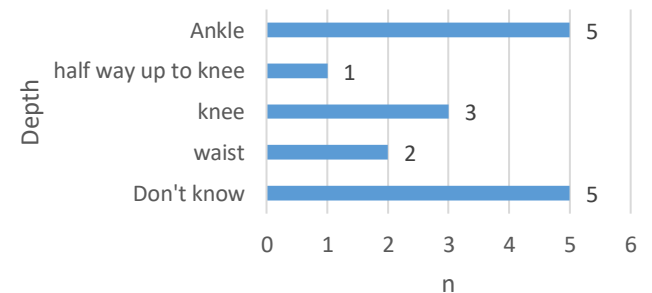
Category	n	Response
Dog	1	'Didn't need it for the dog'
Exploring	2	'Try and get to some puddles/water.'
Personal risk assessment	3	'Would turn back if unsafe. Haven't got glasses'. 'Signs say 'no lifeguard' 'Mums with them
Confusion	1	'Being careful... Red flags to me means keep out the water. Probably should have read the signs'
Attention	1	'Not really paying attention, saw signs didn't read it'

### Identify beach hazards



- 5 people did not mention the sea or mud
- 11 did.

### The depth an adult would become stuck



# Beach users experience and perceptions

## Entering the beach

- No research
- All entered by foot except 2 people by vehicle, one at Brean and one at Berrow.
- The person at Brean received a safety leaflet but did not read it and did not look at the back of the ticket which displays safety information.
- The person driving on at Berrow did not receive a safety leaflet.

## Safety Signage

Had seen sign	3
Seen something similar	2
Not seen it	11

- Everyone understood the signage meaning.
- One person didn't know why the sand and mud may be dangerous.



# Beach users experience and perceptions

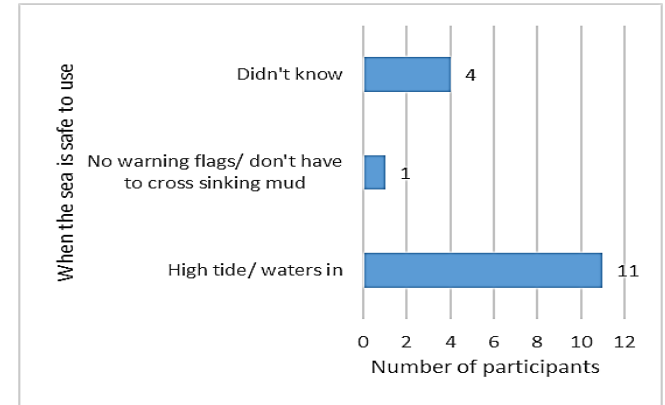
## Safety language and tide times

- 9/10 people at Brean didn't know the tide rises faster towards Brean Down.
- 1 person knew from observation, *'was thinking bloody hell, it comes in fast'*.
- 2 participants knew the tide times.

## Where to find tide times

Category	N
Don't know	5
Tourist information kiosk	1
Coastguard/RNLI lifeguards	2
Ask at entrance (E4)	1
Online	7

## When safe to enter the sea



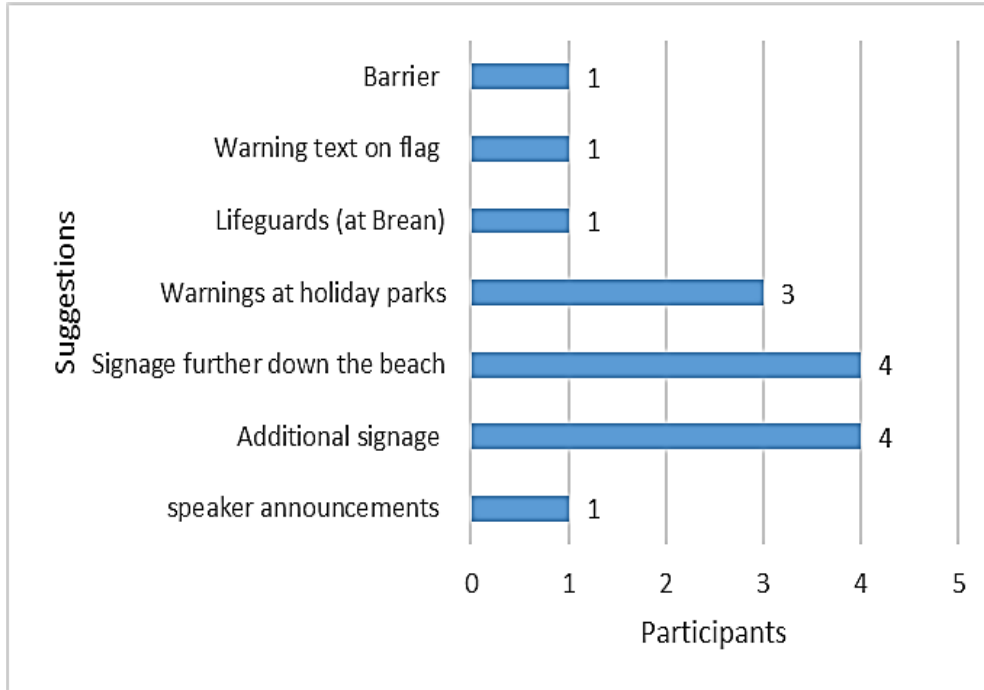
## What is 'Low tide'

Category	N
Don't know	3
Gave correct answer 'when out, or away from the mainland'.	13



## Beach users experience and perceptions

### Additional comments/ Suggested safety measures



- *'Was concentrating on getting the kid's pushchair over dunes*
- *Different to other coastal places where you can usually access the water'*
- *'Thought the mud was a couple of inches, but it turned deep'.*

Incident of child in mud. Did not receive a safety leaflet as the kiosk was closed but vehicle access to the beach was still possible.

- *'The warden's reaction (Berrow) was good. I was sat in the back of the car with the kids and missed the signs.*

### Additional Questionnaires

38 people - 68.4% of people that knew that you can only access the sea at certain times due to the tide and mud.

# Professional perspective

## Method

Organisations were contacted to input expert knowledge

- Berrow Beach Warden
- Brean Beach Warden
- Coastguard Weston-Super-Mare
- Coastguard Burnham-on-Sea \*
- RNLI Lifeboats Burnham-on-Sea
- RNLI Lifeguards (Berrow)\*
- BARB Burnham-on-Sea\*
- Sedgemoor District Council

Semi-structured interviews (\*)

Thematic analysis performed



## Professional perspective

### Reasons people walk into the mud at Brean and Berrow

Theme	Response
Tourist catchment area	<i>Lot of tourists from the Midlands and Birmingham who are not used to a coastline or estuary (Weston coastguard)</i>
Education and lack of local knowledge	<p><i>'Tourists assume it's like other beaches where they can enter the water when they like' (Berrow Lifeguards).</i></p> <p><i>'Don't realise that when the tide is out there are dangerous mudflats to cross to reach the water. (W-S-M Coastguards).</i></p> <p><i>'unaware of changing tides. 'Claim they have not seen the signs' (Berrow warden).</i></p> <p><i>'Deep mud is an invisible danger (Berrow Resort Manager)</i></p>
Geography	<p><i>It's really an estuary' more than a beach' (BARB)</i></p> <p><i>'Ridges of thick mud change every day' (Brean warden)</i></p> <p><i>'The sea soaks into the mud and sand underneath – acts like a sponge becomes soft and down you can go.</i></p> <p><i>'One minute you are walking on solid stuff, then suddenly your down to your waist (BARB)</i></p> <p><i>Tide travels 6m in 10 mins (Berrow resort Manager). The tide at mid flood comes in quicker than when it first turns, (Lifeboats)</i></p>

## Professional perspective

<p>Not reading safety information</p>	<p><i>'People don't read the signs'</i> (Tollgate Brean)</p> <p><i>Stupidity</i> (Berrow warden)</p> <p><i>'people say they haven't seen signs, we know there are lots of signs all over the place...could be sign blindness'</i></p> <p><i>People (younger generation) not interested in reading leaflet and just want to have fun - Sling it in the glove box'</i> (Tollgate Brean).</p> <p><i>'Once on the beach they have passed 7 signs (oblivious to warnings).</i> (Berrow warden).</p>
<p>Can't read the safety info – don't know the dangers</p>	<p><i>'Signs in English. We have loads of international visitors'</i></p> <p><i>Not frequent, but it happens enough (non-English people becoming stuck in the mud)'</i> (Berrow warden)</p> <p><i>Inability to read the signs</i> (Lifeboats)</p>
<p>Following tide line</p>	<p><i>Chasing the tide line'</i> (Lifeboats)</p> <p><i>'90% of people who venture into the mud do so because they want to get to the sea.'</i> (Brean warden)</p> <p><i>'Inflatables - end up on the wrong side of the mud flats,</i> (Burnham-on-Sea Coastguard)</p>

## Professional perspective

<p>Ignoring or challenging verbal safety advice</p>	<p>Disbelieve or challenge safety advice. (Both wardens)</p> <p><i>'When I call people back telling people there is soft mud, they jump up and down to see if it is' (Brean Warden)</i></p> <p>Techniques - <i>Threatening to call the coastguard focuses them'</i> (Berrow warden).</p> <p><i>'People pretend they can't hear you or don't understand English, I have to threaten them with a fine.</i></p>
<p>Optimism bias</p>	<p><i>'that sign doesn't apply to me'</i> (Lifeboats)</p> <p><i>'We all think it isn't going to happen to us, it's a sort of awful thing that happens to other people.</i></p> <p><i>They throw caution to the wind and want that cooling dip'</i> (BARB)</p>
<p>Holiday mode/distracted</p>	<p><i>Adults switch off'</i> (Lifeboats)</p> <p><i>A lack of parental control...parents relying on Sedgemoor to look after kids. - One parent asleep and one on an iPad. <b>The parents attitude when their drowning kid was pulled from the water was it's your f**king job!' (Berrow warden)</b></i></p>
<p>Confusion</p>	<p><i>We are reliant on RNLI red flag systems, which is water safety – people assume it means don't go in the water, here it means don't pass this point. We write the meaning on our board'.</i> (Berrow Lifeguards)</p>
<p>Other</p>	<p><i>Reduced funding (Brean Warden), Alcohol (Lifeboats), 'No staff during the evening' (Berrow warden)</i></p>

## Professional perspective

### Public reactions

*'Positive, not many negatives.'* (Berrow Lifeguards)

### Risk Controls

- Everyone thought risk controls at both beaches were adequate. - *I don't think there's a lot more we could actually do,*
- *Signs as you go on the beach and people are given a leaflet as well'* (Burnham-on-Sea Coastguard)
- *'The wardens do a fantastic job - Up and down the beach in a vehicle all day and can see anybody walking down and chase them straight away.*
- *.There can always be more I suppose'* (BARB)
- *'Warning signs high on the posts - stops people walking/ running into them'.*
- *No signs on beach by Brean Down as the sea keeps washing them away'* (Brean Warden).
- *'Systems to limit danger and create a safe environment. safety leaflets, a ticket office, signage, and 5 staff who disseminate information and 2 lifeguards for water-based rescue – so it is labour intensive.* (Sedgemoor Beach Manager)

## Professional perspective

### Suggested improvements

Flag system	<i>'Have our own signage that explains the mud. We rely on the RNLI red flag system which is water safety – People assume it means don't go in the water when here it means don't pass this point.'</i> (Berrow Lifeguard)
Technology	<i>'New technology could be used...an app constantly updated that tells you specifically where the tide is coming up to on the beach that day.</i> (BARB)
Language	<i>Information in other languages'</i> (Berrow Warden)
Education	<i>'More education, We try to educate people on Facebook'</i> (B-o-S Coastguard) <i>'Public information film'</i> (Berrow Warden)
Tide times	<i>'More information about tide times to explain where it comes up the beach, not just the height. What does 11.6m mean. More graphics. pictures of stranded cars or people being stuck'</i> (BARB)
Holiday parks	<i>'Warnings at holiday parks'</i> (BARB)
Less generic signage	<i>'Warning signs that say today....'</i> (BARB)



## Professional perspective

### When is the mud exposed?

- Mudflats are exposed at low tide **and** between high and low tide.

### Berrow

- *Rule of thumb Safe to enter sea 2 hours either side of high tide.*
- Tide heights differ between 12m and 8m (*Depth means how fast the mud gets covered and the speed it comes in and where it will stay.*)
- *A large tide (12m) - mud gets covered faster as the tide comes in faster(30 mins extra to access water safely)*
- *A small tide (8m) - stays further down the beach, slows down, then goes back out (less time to access water safely)*
- *Tide depths and times are important. Most people won't know this' (Berrow lifeguards)*

### Brean

- *Different timings - mud line is diagonal and Berrow gets covered first'*
- *'If high tide is 11m then it is safe 3 hours before and 3 hours after high tide. If the high tide is 10m it is safe 2 hours before and after high tide (Brean Beach Warden)*

HIGH WATER AT BURNHAM					
SEPTEMBER 2019					
		Morning H. M.	Height Metres	Afternoon H. M.	Height Metres
1	Su	09 05	11.80	21 22	12.01
2	M	09 47	11.75	22 05	11.82
3	Tu	10 28	11.39	22 46	11.29
4	W	11 09	10.70	23 27	10.46
5	Th	11 51	9.82	** **	* **
6	F	00 10	9.51	12 34	8.93
7	Sa	00 58	8.61	13 30	8.19
8	Su	02 02	7.94	14 48	7.84
9	M	03 30	7.77	16 22	8.16
10	Tu	05 01	8.31	17 33	8.97
11	W	06 02	9.12	18 24	9.75

## Professional perspective

### Depth of mud

- *'Midcalf – depending on age and strength...struggling'* (BARB)
- *'People get exhausted rather than stuck. It doesn't take a lot of mud once your foot is sealed, the suction starts*

### Age

- *'It's all ages. last December we rescued a 6-year-old boy stuck in the mud, ... rescued pensioners who have got into difficulty'* (BARB)

### Safety precaution impacts

- Beach wardens and RNLI staff are preventing callouts.
- Leaflets help educate people , but ensuring all visitors had one was difficult and they may not get read.
- *It all helps to push out the message, but when you've got 300,000+ people visiting Brean in a season...then how many leaflets do you push out? ...*
- Signage was least likely to prevent callouts.
- Call-out rates have not decreased since signage at Sedgemoor was changed to comply with RNLI signage

## Conclusion

- Fatality in the past
- Continuing and increasing rescues (any incident is foreseeable)
- Effectiveness of risk controls - . (Clustered, weak or lack of controls)
- Beach users perceptions and experiences on the beach (intended to spend ~4 hours or less on the beach but also wanting to access the sea).
- Language barriers, understanding terminology and confusions of the meaning of the red flag
- Lack of knowledge about environmental conditions (access, changes and exploration)
- Beach staff are effective but are heavily relied upon.

## Recommendations

- Identify best methods to inform beach users of the hazards and controls.
- Use technology (app) to warn and inform
- Install double sided signage at all entrance and make safety leaflets available to all beach users.
- Define RNLI red flag or create new mud warning flags and reassess the definition on the signage
- Better use of colour on maps
- Create user friendly entrances (car and pedestrian).



# Thanks for listening

## Questions

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- <https://www.linkedin.com/in/deborah-smith-998b84a5/>