Tidal literacy: Public understanding and misconceptions of the tide

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Tidal literacy: Public understanding and misconceptions of the tide

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Methods and more detail available in our academic paper: Morris-Webb et al. (2025) https://doi.org/10.17645/oas.9793

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1. Background and Methodology

Yvonne Butterworth, her family and their dogs were rescued by lifeboat from the water at Fleetwood in 2024 after being cut off by the tide.

Yvonne: 'It was about 2.15pm when we got to Fleetwood. We checked the tide times and it said we were ok until about 5.15pm. I wasn't aware the high tide times were different than the low tide times – when we checked it said 5 something so we thought that we had loads of time.
'We turned back round and the water was already behind us.
'Because there was still a lot of sand, I felt confident that we could get back through....within two minutes, all the sand was gone.
'What we'd expected a nice peaceful walk on the beach turned into a completely crazy day.

Tidal cut off has been the cause of over 3,600 lifeboat & lifeguard incidents and over 35,500 people have needed assistance over the past 5 years.

The RNLI approach to tidal safety has focussed on advising people to check the tide times.

But how helpful is that advice? Even if people know where to find tide times, how easy is it to understand what the numbers on the tide table mean? If you can understand them and can find the time of high or low water, how easy is it to know when on the incoming tide you might get cut off at the precise location you're planning to visit. And even you can get that far, could you do it again tomorrow when the cut off time will have changed, and again the day after when it will have changed again.

RNLI and Bangor University wanted to explore these issues and whether our approach to tidal safety is assuming an appropriate level of understanding about the tide for most people in the UK and ROI.

RNLI safety messaging

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Project aim: to assess the extent to which people understand tides and to identify common misconceptions that lead to tidal cut off to provide an evidence base to inform more effective approaches to tidal safety in the future.

Objectives

To assess people's understanding and identify the common misconceptions about the tide that lead to tidal cut off

1. **Evaluate tidal literacy** (knowledge of the tide)

2. Unpick **real vs perceived (confidence) knowledge**

3. Identify what are the **common tidal misconceptions**

Methodology

Survey designed and analysed by Bangor University.
Full details of the method, analysis and results available via our academic paper:
Morris-Webb et al. (2025).
https://doi.org/10.17645/oas.9793

Online survey via a commercial research panel provider, average 12 minutes in length, fieldwork February-March 2022

Achieved combined valid sample of 1368:
1266 from the UK and 102 from Republic of Ireland, nationally representative by age, gender and region (county) for both UK and ROI

Throughout the report:
- figures .5 or above have been rounded up to the nearest decimal place
- percentages may not always round up to 100% due to rounding
- significance testing has been carried out at the 95% confidence level

Tidal literacy is the understanding of how the tide works and how to apply this knowledge to stay safe on beaches, on and in the water, with the aim of reducing the need for water safety and rescues (prevention rather than cure).

In this survey, tidal literacy was assessed using 6 questions:

Knowledge based questions	**Q7. How many times** does the tide typically come in over a 24-hour period? *(Correct Answer: Twice)* **Q8**. In the same location, are the rises and falls of the tides the **same every day?** *(Correct Answer: No)* **Q9.** On a given day, are the rises and falls of the tides **equal size in all parts of the country?** *(Correct Answer: No)*
Test of ability to read & interpret tide tables	**Q15. Basic:** Look at the BBC Tide Table for Chesil Cove on Christmas day displayed below. What time is low water? **Q16. Medium:** You would like to spend an afternoon at the beach when the tide is at the lowest. Read the EasyTide tide table below and tell us which is the best afternoon to go. **Q18. High:** You are walking to an island that gets cut off mid tide on the incoming tide. Read the tide table below. What is the latest time you need to come off the island on each day to return in daylight?

For Q7/Q8/Q9 The correct answers are shown in brackets above
For Q15/Q16/Q17 Tide tables shown to respondents are shown in the Appendix
For Q15: Respondents were asked to select all that apply. Two (correct) low water tides were available. Respondents were scored 'correct' if they identified at least one of the low water times.

2. Current context: self-reported frequency of Cut Off By Tide and tide checking behaviour

Cut off by tide is a significant cause of lifeboat and lifeguard incidents with over 35,500 people aided and 216 lives saved in the last 5 years. The survey has revealed that over 15% of the public report having been Cut Off By Tide.

RNLI Lifeboat and Lifeguard incidents

	2024	2020-2024	2015-2024
All incidents	22,306	120,286	248,994
Total cut off by tide incidents	546	3,669	7,971
Lives saved (cut off by tide)	59	216	452
Lives Lost (cut off by tide)	0	2	2
People Aided (cut off by tide)	1,534	35,523	66,775

Self-reported frequency of Cut Off By Tide

Lifeboat & lifeguard incident data from RNLI lifeguard incident reports and LSAR
Q10 Have you ever been cut off by the tide, or nearly so? Base: All respondents (1368)

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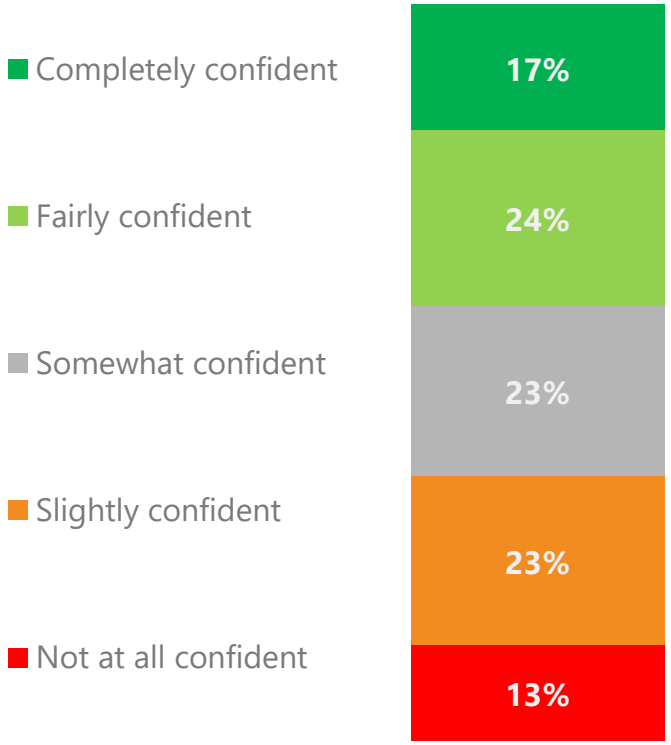
Two in five of the general public say they are at least fairly confident in finding information on tide times.

Self-rating of confidence in finding information on tide times



42% are fairly/very confident - this is significantly higher amongst:

- Older males (57%)
- Those who spend free time / visit the coast at least once a week (53%)
- Those who reported experience of being cut of by the tide (or nearly so) (51% vs. 40% who haven't)
- Those who always check tide times before visiting the beach (80%)

36% are not at all / slightly confident - this is significantly higher amongst:

- Females (42%)
- Those who never check tide times before visiting the beach (61%)

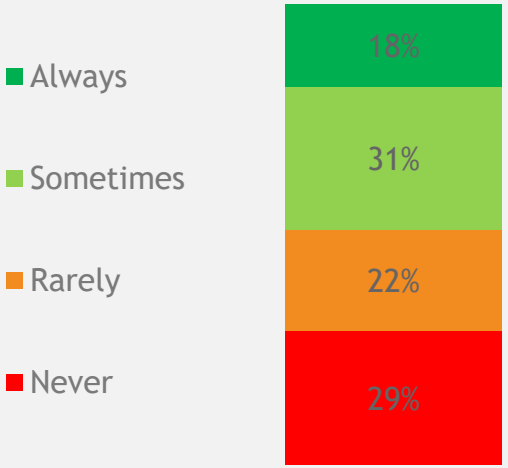
Q14 How confident do you feel finding information on tide times?
Base: All respondents (1368)

However, currently only a minority of the public (18%) always check the tide before going to the beach and over half rarely or never check the tide.

Check tide table before going to the beach

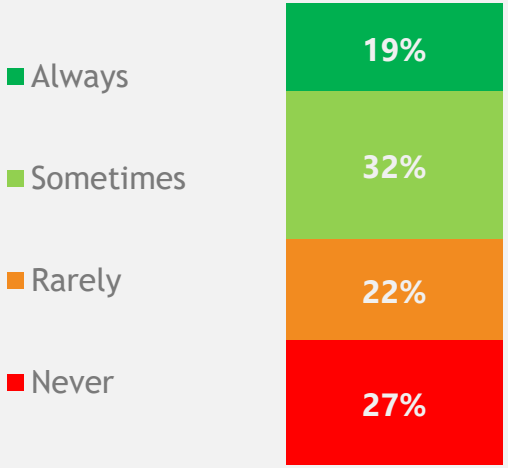
Overall Total

Only half of public **claim** to check tide times at least 'sometimes' before visiting a beach



Of those who have visited the coast in the past 12 months…

The picture is nearly identical.



Likelihood of checking tide times varies by proximity to the coast and frequency of beach visiting:

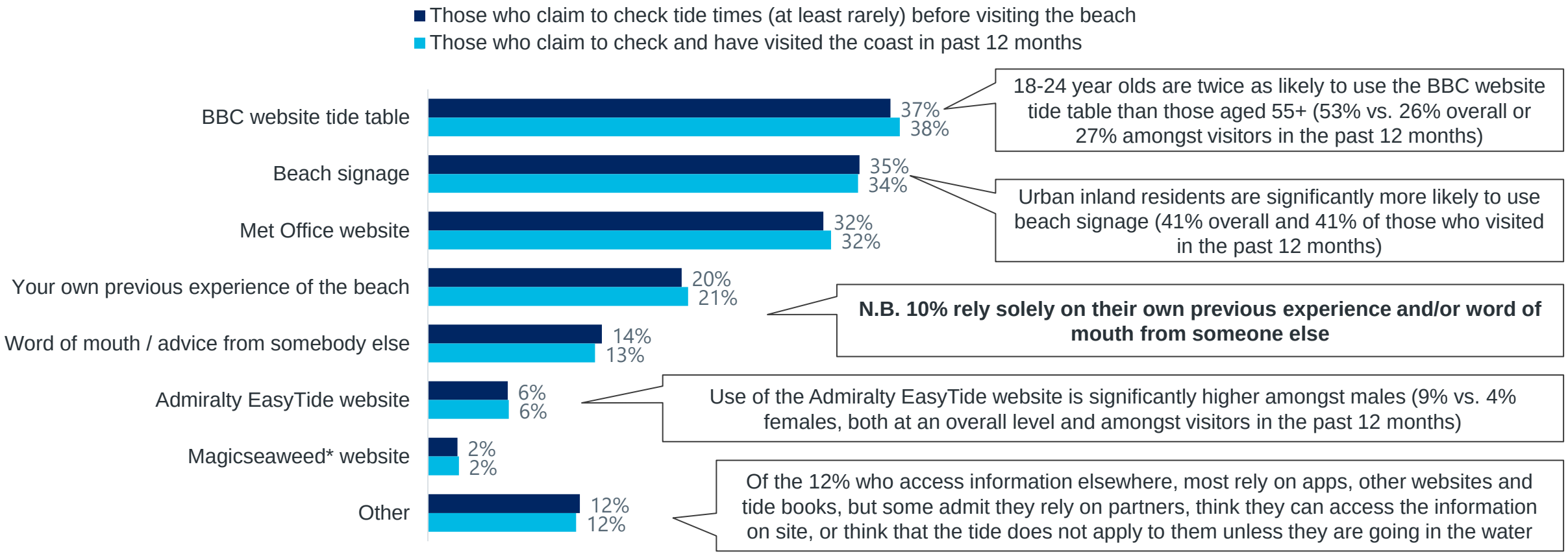
- **Residents in rural coastal locations are significantly more likely to claim they 'always' check tides** before visiting (30%)
- **Never checking tides is significantly higher amongst less frequent visitors to the coast** (39% of those who visited the coast less than once every 2-3 months)

Q12 Do you check the tide times before you visit the beach?
Base: All respondents (1368) / Those who have visited the coast in the past 12 months (1260)

*Rural Coastal is defined as living in a village, small town or countryside, less than 5km from the coast

Of those who claim to check tide times (at least rarely) before visiting the beach, 60% access tidal information from one source and 40% use between 2-8 sources. No one source stands out as being the key source of information.

Sources of tidal information



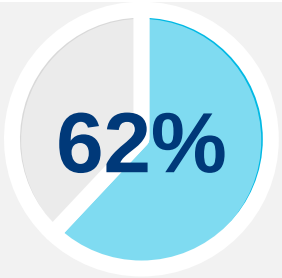
Q13 Where do you access your tidal information? Base: All those who claim to check tide times before visiting the beach (968)
Q13 (as above) by Q3 In the last 12 months, how often, on average have you spent free time outside at the beach, other coastline or sea? Base: Those who claim to check tide times before visiting the beach respondents and have visited the coast in the last 12 months (925)

* NB: Since the research took place, the Magicseaweed website been renamed as Surfline

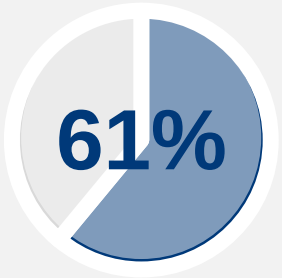
3. Tidal literacy

Tidal knowledge: although around six in ten have basic understanding of tides this leaves around four in ten without basic knowledge.

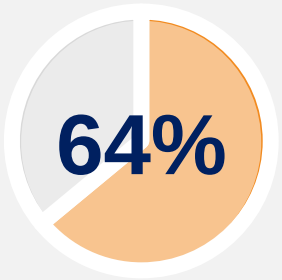
Know that tides comes in twice a day



Know that, in the same location, tides rises and falls at different times each day



Know the size of rise and fall of tides varies across different parts of the country



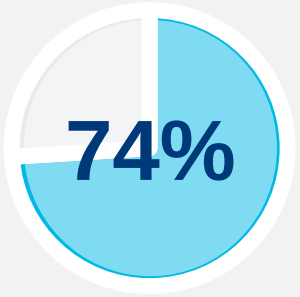
- **Knowledge is higher with age** – for example 51% aged 18-34 know that tides come in twice a day, rising to 71% aged 65+
- **Knowledge also somewhat higher amongst males** than females
- **However, younger age groups** (and particularly males) were more likely to give **incorrect** answers than older age groups
- **Females** were significantly **more likely to admit they 'don't know'** than males
- **Higher education levels do not necessarily correspond to increased knowledge**
- **Knowledge also does not necessarily increase with** the **proximity** of where they live to the coast **or** with **frequency of visiting the coast**

Q7 How many times does the tide typically come in over 1 24-hour period? / Q8 In the same location, are the rises and falls of the tides the same every day? / Q9 On a given day, are the rises and falls of the tides of equal size in all parts of the country?
Base: All respondents (1368)

Ability to interpret tide timetables: Although the majority of public can interpret a basic tide table, this falls dramatically as soon as more complex decision making - needed to prevent being cut off by tide - is required.

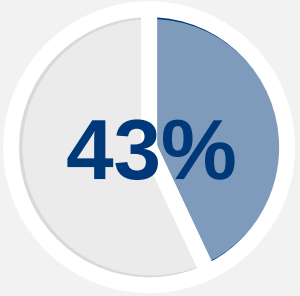
BASIC ability to interpret tide table

Identify time of low tide



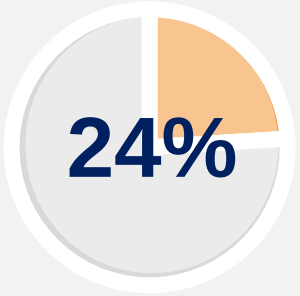
MEDIUM ability to interpret tide table

Identify best day of a week to visit beach with the lowest tide in the afternoon



HIGH ability to interpret tide table

Identify the latest time needed to come off an island that gets cut off by mid-tide



Three quarters can interpret a basic tide table but this isn't sufficient to prevent being cut off by tide

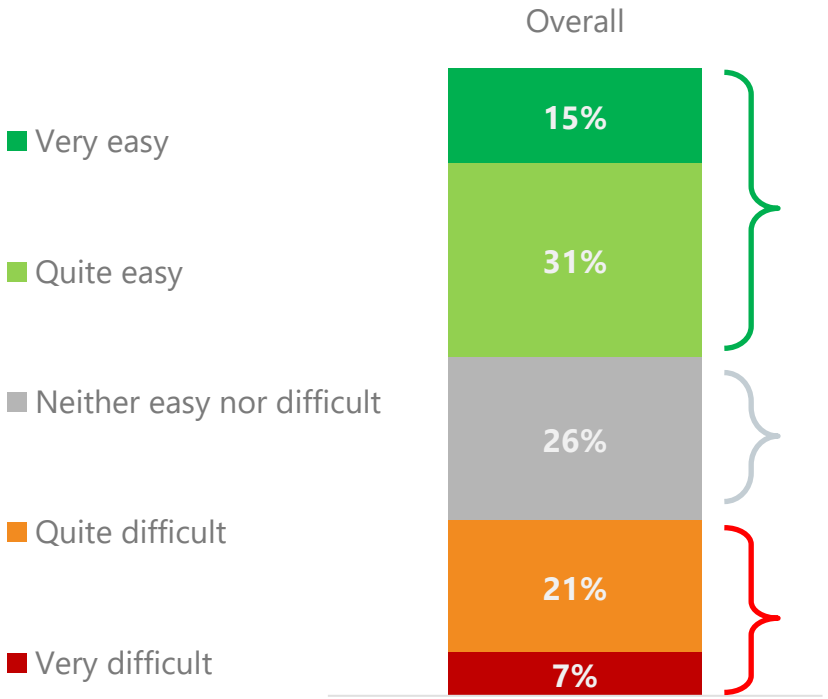
Only a quarter of the public have sufficient ability to interpret a tide table to take the appropriate behaviour to prevent being cut off by tide

- Ability to interpret tide tables is **not linked to age or gender demographics**. However, being able to identify the correct tide times generally **increased with educational attainment** (with those educated to post-graduate more likely to identify correct tide times)
- Ability also does not necessarily increase with the proximity of where they live to the coast or with frequency of visiting the coast

Q15 Look at the BBC Tide Table for Chesil Cove on Christmas day displayed below, what time is low water? (Note for this qu, respondents were asked to select all that apply. Two (correct) low water tides were available. Respondents were scored 'correct' if they identified at least one of the low water times.)
Q16 You would like to spend an afternoon at the beach when the tide is at the lowest. Read the EasyTide tide table [shown] and tell us which is the best afternoon to go?
Q18 You are walking to an island that gets cut off mid tide on the incoming tide. Read the tide table below. What is the latest time you need to come off the island on each day to return in daylight?
Base: All respondents (1368)

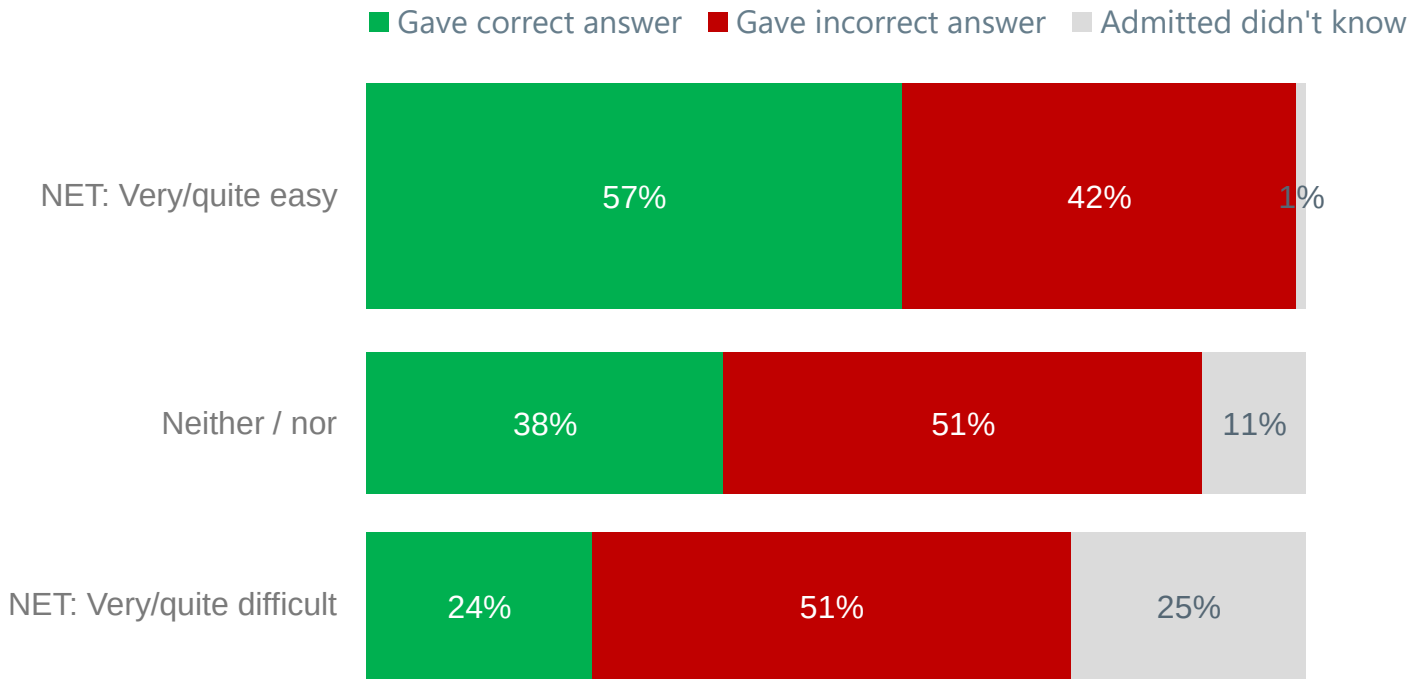
After looking at the ‘medium ability’ tide table, people were asked how easy/difficult they found it to interpret. Although 45% said they found it easy to interpret, of these 42% actually gave an incorrect answer.

Self-rate of how easy/difficult it was to interpreting the ‘medium ability’ tide table



Whether correctly interpreted that tide table by rating:

Four in ten (42%) of those who found it very/quite easy to interpret the ‘medium ability’ tide table actually got it wrong



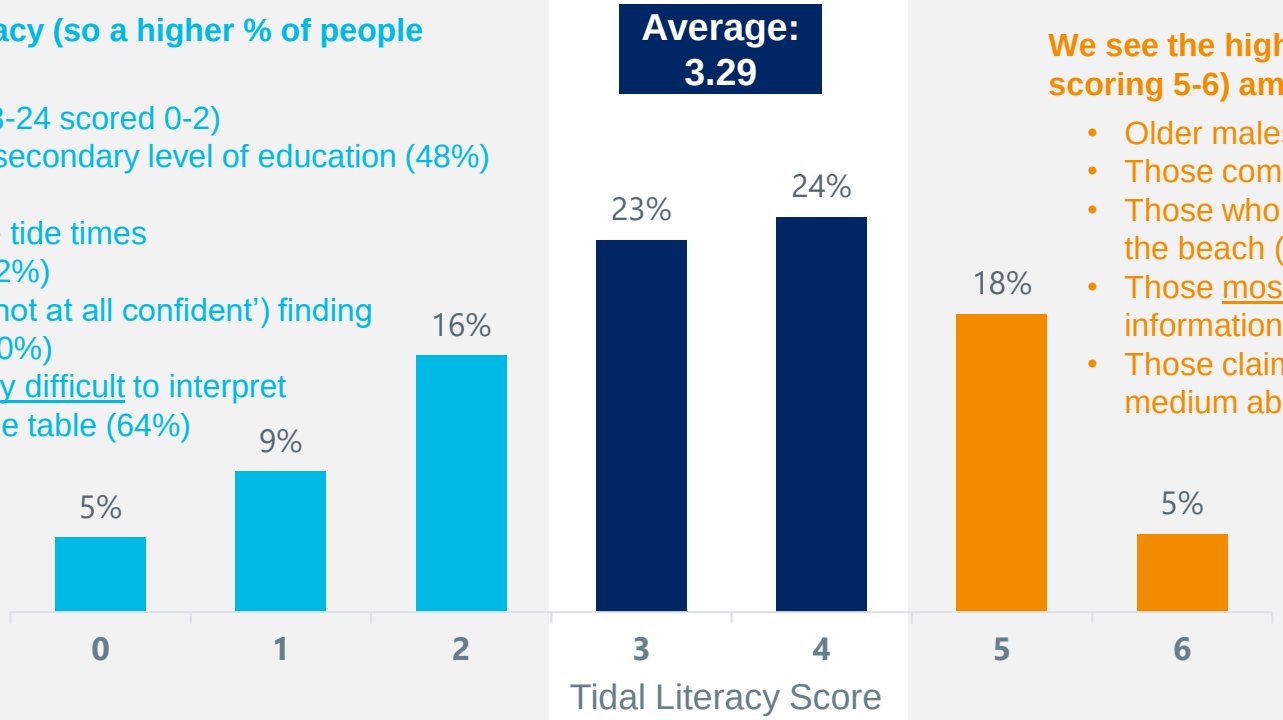
Q17 How easy or difficult did you find it to interpret the [medium ability] tide table? Base: All respondents (1368)
Q17 by Q16 Assessment of medium ability to read timetable (You would like to spend an afternoon at the beach when the tide is at the lowest. Read the EasyTide tide table below and tell us which is the best afternoon to go.) Base: Those who rated it quite/very easy (621) / neither/nor (356) / quite/very difficult (391)

Amongst the general public, the average Tidal Literacy Score is 3.29 (on average people answered 3 of the 6 questions correctly). However, we see a clear distinction between those with below average and those with high tidal literacy.

29% scored lower than average (0-2)

We see the lowest tidal literacy (so a higher % of people scoring 0-2) amongst:

- Young males (48% aged 18-24 scored 0-2)
- Those only reaching lower secondary level of education (48%) or upper secondary (34%)
- Those who never check the tide times before visiting the beach (42%)
- Those least confident (i.e. 'not at all confident') finding information on tide times (50%)
- Those claiming to find it very difficult to interpret the medium ability (Q17) tide table (64%)



23% scored highly (5-6)

We see the highest tidal literacy (so a higher % of people scoring 5-6) amongst:

- Older males (34% aged 55+ scored 5-6)
- Those completing post-graduate education (31%)
- Those who always check the tide times before visiting the beach (37%)
- Those most confident (i.e. 'completely confident') finding information on tide times (38%)
- Those claiming to find it very easy to interpret the medium ability (Q17) tide table (40%)

NB: Tidal literacy does not necessarily increase with the proximity of living to the coast nor the frequency people visit the coast.
The overall picture of Tidal Literacy scores is similar between those who have experienced tidal cut-off (or nearly so) compared to those who haven't.

Tidal Literacy score – calculated based on number of correct responses to the Tidal Knowledge and Tidal Ability questions (Q7/Q8/Q9/Q15/Q16/Q18)
Base: All respondents (1368)

4. Gaps in understanding and misconceptions of general public

Detailed analysis of responses to open-ended questions was conducted to explore perceptions of risks at the coast, common understandings and misconceptions about the tide.

Q5. When you spend a whole day on the coast, changes can be observed taking place around you. Are there any changes that could mean a risk to you as a visitor? If so, how?

Q6. What are tides, what do you know about them?

Q8a. In the same location, are the rises and falls of the tides the same every day? Please explain your answer.

Q9a. On a given day, are the rises and falls of the tides of equal size in all parts of the country? Please explain your answer.

Detailed analysis of these questions was conducted by Bangor University, utilising a hybrid of thematic analysis and search term analysis. Methods and more detail available in our academic paper: Morris-Webb et al. (2025) https://doi.org/10.17645/oas.9793

When thinking about risks at the coast only two in five spontaneously mentioned the potential danger and risk of tides.

Perception of Risk

41% identify the tide is dangerous:

- 36% mentioning tide as a risk
- 9% specifically mentioning danger

But this means, almost 60% did not mention the tide was a risk on the coast!

'I have to be careful I don't get caught out by the tide coming in or currents in the sea when swimming.'

'If at the beach and not noticing the tide coming in'

'I understand how quickly the sea can change, it can be very unforgiving'

Open-ended questions: Q5 When you spend a whole day on the coast, changes can be observed taking place around you. Are there any changes that could mean a risk to you as a visitor? Q6. What are tides, what do you know about them? Base: All respondents (1368)
Detailed analysis of these questions was conducted by Bangor University, utilising a hybrid of thematic analysis and search term analysis.
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Detailed analysis found around 60% of the public had some basic understanding of tides, and 11% admitted no or minimal understanding.

60% proved some basic understanding about the tide in their open responses including:

- 36% mentioning high/low tides
- 20% mentioning the moon's gravitational pull causing the tide
- 11% mentioning that tides changed through the day (evidence of diurnal phenomenon of tides)

'The twice daily movement of the sea caused by the moon'

'Caused by movement between earth and moon orbiting each other. Roughly12 hour cycles. 2 high and 2 low tides per day'

'It is something to do with the moon. There is high and low tide, I think they change twice a day'

Nearly one in ten admit to no or minimal understanding
(slightly higher amongst women)

'Nothing'

'Don't know much about tides'

'No idea what that is'

Open-ended question: Q6 What are tides, what do you know about them?
Base: All respondents (1368)
Detailed analysis of these questions was conducted by Bangor University, utilising a hybrid of thematic analysis and search term analysis.
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But it is important to also consider gaps in understanding (including what was not mentioned) as well as common misconceptions.

Fewer than 10% mentioned tidal risk factors:

- water movement (7%)
- speed (4%)
- strength of tides (3%)
- sea level changes (3%)
- spring/neap cycle (1%)

This means that over 90% did not mention, without prompting, any of these risk factors when asked what they know about the tide!

16% revealed misconceptions including:

- 8% believing that tides were ripples, waves or tidal bores
- 4% expressing that tides were currents, 1% specifically rips
- 3% believing tides appeared at a consistent time of day or consistent in size/distance/area

'Tide comes in in the morning and goes out late afternoon'

'When I have been staying by the coast, the tides have always [been] the same time every day, once a day'

'I think they are around 12 noon and 12 midnight'

Open-ended questions: Q6 What are tides, what do you know about them? Base: All respondents (1368) / Q8a In the same location, are the rises and falls of the tides the same every day? Please explain your answer (only analysed those who got Q8 incorrect) / Q9a On a given day, are the rises and falls of the tides of equal size in all parts of the country? Please explain your answer (only analysed those who got Q9 incorrect).
Detailed analysis of these questions was conducted by Bangor University, utilising a hybrid of thematic analysis and search term analysis.
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5. Experience of tidal cut off

The 15% who reported being cut off by the tide (or nearly so) were asked a series of open-ended text questions about their experience and lessons learnt.

Q10a Can you describe what you were doing at the time, what happened and why? When did you realise the tide was coming in?

Q10b At what point did you realise that the tide was coming in? Can you remember your thoughts at that moment?

Q10c Has your awareness of the tide changed since then? If so, what is different?

Q10d Has your behaviour on the shore changed? If so, in what way?

Q10e When you tell others about the experience, what is your main message to them?

Q11 What do you think most people do not understand or realise about the tide?

Q10 Have you ever been cut off by the tide, or nearly so? Base: All respondents (1368)
Q10a/Q10b/Q10c/Q10d/Q10e/Q11 Base: Those saying they had been cut off by the tide, or nearly so, and validated by Bangor University to have been cut off based on the open-ended responses given (207)
Detailed analysis of these questions was conducted by Bangor University, utilising a hybrid of thematic analysis and search term analysis.
Methods and more detail available in our academic paper: Morris-Webb et al. (2025) https://doi.org/10.17645/oas.9793

Of those cut off by tide and gave information related to the activity they were undertaking at the time of their tidal cut off experience…

60% were undertaking activities that were intended to be by the side of the water (not in/on the water)

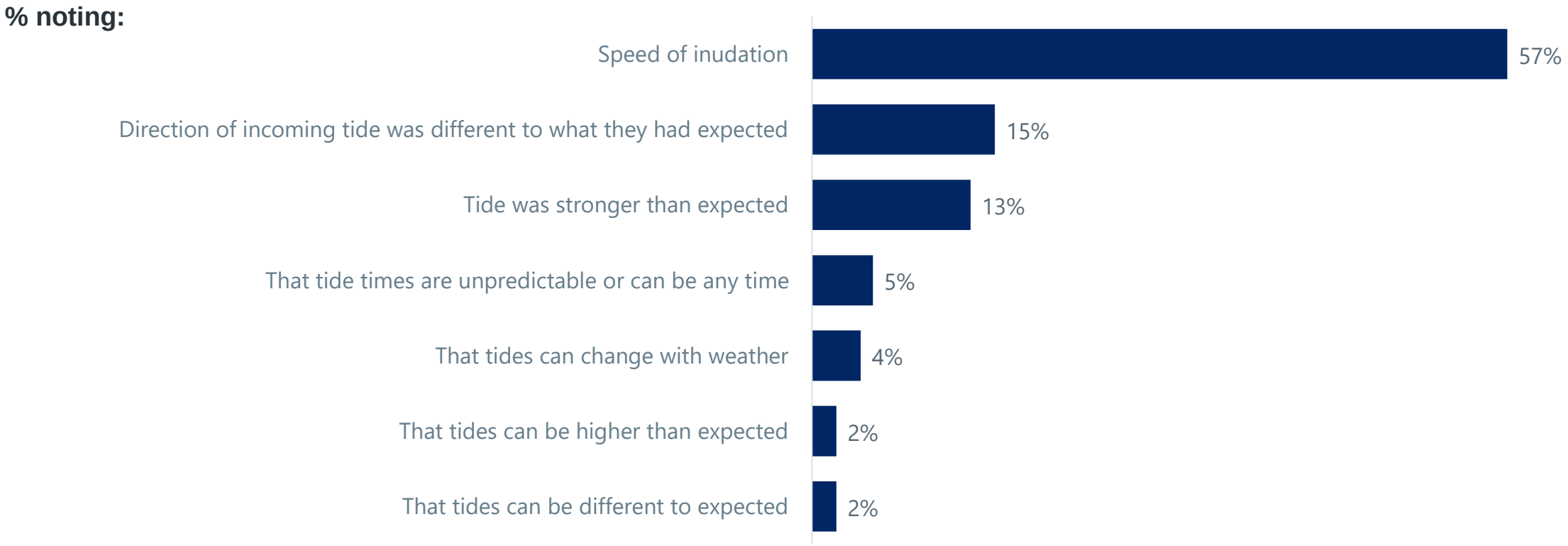
31% gave a reason linked to being cut off

This included:

- 10% who admitted they were distracted by their activities
- 8% who were somewhere unfamiliar
- 7% who were either with children or cut off as a child
- 5% acknowledged they had made an error reading the tide table or had got the tide times wrong

Q10a Can you describe what you were doing at the time, what happened and why? When did you realise the tide was coming in and what were your thoughts?
Q10b At what point did you realise that the tide was coming in? Can you remember your thoughts at that moment?
Base: Those who reported ever being cut off by the tide, or nearly so (270)
Detailed analysis of these questions was conducted by Bangor University. Morris-Webb et al. (2025) https://doi.org/10.17645/oas.9793

83% of those experiencing tidal cut off revealed gaps in their knowledge or misconceptions about the tide that led to their tidal cut off – these centered around the speed of inundation, but also unexpected tidal behaviour and the strength of tides.



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Detailed analysis of these questions was conducted by Bangor University, Morris-Webb et al. (2025) https://doi.org/10.17645/oas.9793

Examples of the comments around gaps in understanding and misconceptions are shown below:

Speed

'How quickly it can change. Even the strongest and quickest of people can be caught unaware'

'The tide came in quickly at an angle to the coast…'

'How quickly it happens, how deep the water can change'

Direction of tide was different to expected

'The tide swirls into the coast rather than straight in and out.'

'It's a weird beach and the tide comes in very quick and strange.'

'I was walking on a flat bay, by the time I reached the shore it had cut me off by coming up a creek'

'It doesn't come in in a straight line, you can easily be cut off'

Variability

'That it varies each day. It is difficult to tell just from looking at it whether it is incoming or outgoing'

'It can change very quickly and is not always predictable'

Strength of tide

'The strength and when it's most dangerous'

'It's strength to pull you out to sea!'

Q10a Can you describe what you were doing at the time, what happened and why? When did you realise the tide was coming in and what were your thoughts?
Q10b At what point did you realise that the tide was coming in? Can you remember your thoughts at that moment?
Base: Those who reported ever being cut off by the tide, or nearly so (270)
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CASE STUDY from an interview with individuals rescued by the RNLI after being cut off by the tide: Rescue from sandflat in Wales.

Two friends were walking their dog on a familiar and popular ‘flat’ beach. This was a familiar place as they regularly holidayed there and now live there. As they walked, they paddled in ankle deep water, perhaps getting a bit distracted.

Suddenly they realised that they were on an ‘island’, surrounded by deeper water that was rising fast. They realised they were in sudden danger.

A young family (with a pregnant woman, small child and dog) was nearby, also stuck, and joined them. The family had no phone and they too were oblivious of the danger they were in.

Luckily the two friends had a phone and knew to ring 999 and ask for the coastguard (the other family did not). The Coastguard tasked the RNLI to assist. Whilst waiting to be rescued, a beach patrol warden on the shore reassured them that help was on the way and not to panic.

By the time they were rescued by the RNLI lifeboat, the bank was covered and the water was coming in fast.

There were 26 other groups rescued from the same beach that year, and almost certainly many more who did not report an incident.

'The lifeboat people said if we'd waited much longer, it really could have been a different situation... Because it was so quick, the tide coming in, it would have got a lot deeper for us.’

Advice for others: *‘So we would just say about being aware of being cut off, to look around you all the time, keep turning back and looking around’*

Misconceptions and gaps in knowledge:

- Sandflats are flat
- The tide can fill up behind you, fast
- That direction and time of tide is unpredictable on sandflats
- Family nearby did not realise the seriousness of situation – one party did not have a phone, and did not realise they could dial 999.
- Perception that knowing the tide time would not have helped

Lessons:

- Sandflats are not flat – increase awareness of gentle undulations can create ‘islands’ (banks)
- Speed and unpredictability of tides
- **There is a need to raise awareness of how reading and understanding a tide table could have prevented this situation**, as well as providing the right messages such as ‘Avoid going out on flats on rising tide - if you don't know, go before low’

Source: Interview with individuals rescued by the RNLI after being cut off by tide

CASE STUDY from an interview with individuals rescued by the RNLI after being cut off by the tide: Cliff rescue at Lyme Regis.

Having seen many adverts about the coastal walks around Lyme Regis (mainly showing fair weather, scenic beaches and impressive cliffs), a Mediterranean tourist decided to take a walk along the coast. They could see the cliff in the distance *'so white and beautiful'*. They noticed a board but decided to ignore the warnings, based on their understanding from the Mediterranean sea which has very small tidal range, so didn't think they were in danger. They thought '*it's only the sea, it's impossible that it is that dangerous'.*

After 3 hours of walking, they noticed the tide was rising. They tried to go back, but the tide was rising very fast and the water was moving very fast. Behind them was cliff, but in front of them rising tide. They were captured by the tide with nowhere to go, except climb the cliff. They assumed a line drawn by the shells in the cliff would be above the water level. It was very slippery and they cut their legs. Their phone didn't work, it got wet, and there was no signal. Another person was doing the same thing, climbing the cliff, 300 metres away. The waves were starting to crash, the weather was closing in, and cliff was crumbling. There was a serious threat to life.

Thankfully, a kayaker spotted them and rang for help. They were rescued by the RNLI lifeboat and watched as the RNLI repeatedly tried to access the other person, stuck on a less stable bit of cliff. The second person was eventually rescued by the Coastguard helicopter.

***'I didn't check the tide times,** but it's not easy for people that don't live there. I stayed in a B&B for three days, but there was nothing about it. So it's not easy for people who don't live there'*

***Advice for others:** 'Probably the better place to put a sign is on the cliffs or very near at the beginning, not on the gate like the toilets at the beginning of the path.'*

Misconceptions and gaps in knowledge:

- Not thinking of **relevance of tides for cliff/coastal walks** (only sandy beaches)
- **Believe tide and tidal range** is same in all places– in UK and Mediterranean, in the next bay
- Unaware walking around headlands can cut you off from safe exit
- **Unaware of speed** of tide
- Interpreted **signage as 'friendly recommendation'** not serious life threatening

Lessons:

- **Language should be more serious / 'life threatening'.**
- **Visualisations of height of rise would help** (ie: markers on cliffs)
- **Update and maintain maps / notices** with collapsed / missing exit points.
- **Tourist literature** only shows the coast in best conditions and at low water.
- The RNLI could have a wider reach to the 'uninformed'. Eg: via **travel social media influencers and ambassadors** to help spread this message.

Source: Interview with individuals rescued by the RNLI after being cut off by tide

Of those cut off by tide 9 in 10 say the experience has influenced their behaviour or how they would warn others - key themes are around the need for greater local knowledge and more urgent and emotionally charged messaging.

SPEED

- *Water comes in FAST*
- *Conditions change quickly*
- *Tide movement is not always linear*
- *Time to respond is VERY limited*

DANGER

- *It's scary!*
- *Unexpectedly frightening*
- *Strength of the tide/water*
- *Tide can come in from behind you*
- *Don't take risks / be sensible*

VIGILANCE

- *Be observant; happens when distracted, absorbed, asleep*
- *Tides can be unpredictable; conditions vary day- to-day*
- *Not always able to tell from observation if tide is incoming or outgoing*

KNOWLEDGE

- *Equip yourself with the knowledge of tidal information*
- *Understand conditions/risks at specific beaches*
- *What should you do if you get into trouble?*

41% reiterated the importance of knowing the tide and site including mention of knowing about local hazards

Q10d Has your behaviour on the shore changed? If so, in what way? / Q10e When you tell others about the experience, what is your main message to them? /
Q11 What do you think most people do not understand or realise about the tide?
Base: Those who reported ever being cut off by the tide, or nearly so (270)
Detailed analysis of these questions was conducted by Bangor University, Morris-Webb et al. (2025) https://doi.org/10.17645/oas.9793

6. Summary & conclusions

Summary of key findings

Around four in ten of UK & ROI general public do not have a basic understanding of the tide e.g. that it comes in twice a day

Only a quarter of the public are are able to read and interpret a tide table at the level required in order to take the appropriate behaviour to prevent being cut off by tide

Tidal literacy does not vary by proximity of living near the coast or with frequency of visiting the coast

People are not always good at estimating their own ability to interpret a tide timetable e.g. four in ten of those thinking a tide table task was easy actually got the answer wrong

15% of UK & ROI public report having been cut off by tide, or nearly so

The speed of inundation is the most common misconception leading to being cut off (six in ten of those who've experienced being cut off by tide cited the speed of the tide)

We need to change and improve the way we talk about tidal safety to reflect the low levels of tidal literacy amongst the general public.

1

Public understanding of tides is low

- As well as gaps in understanding around the nature of tidal movements and misconceptions of the tide, there is a lack of ability to interpret this information in the local context
- Basic knowledge of how to read a tide timetable is not enough to prevent being cut off
- Only a quarter have sufficient knowledge/ability to take appropriate action to avoid being cut off by the tide

2

There is a clear need to raise awareness / understanding the public about tides, dangers and cut off risks

- Including: speed, strength and unpredictability of the tide
- Encourage people to stay vigilant
- Both generally and at location level with improved signage
- Need to make advice simpler, more accessible and more visual

3

Improving tidal literacy should be regarded as a preventative measure to

- Not only reduce the risk to life
- But also to reduce the number of rescues needed

Finally, one alternative approach to tidal safety has been successful in Sully Island, where RNLI volunteers have been patrolling to provide water safety advice and warnings.

52 patrols between May and October

0 ‘person in water’ incidents in 2024 during patrols

‘They got carried away rock pooling, with 12 mins to spare we used the bull horn to call them back’

‘Loud haler used to get 3 youths back from the Island before it covered.’

‘Causeway very quiet but I have taught a family about float to live’

‘Conservative estimate of 4-6 definite cut offs prevented today’

PRIFYSGOL BANGOR UNIVERSITY

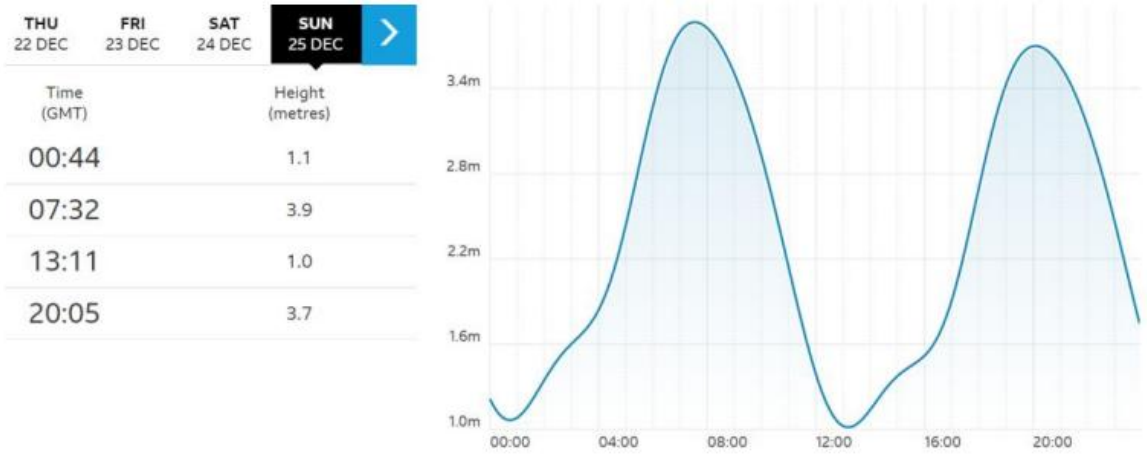
Lifeboats

7. Appendix

Question asked to assess BASIC ability to interpret tide timetable

Q15. **Look at the BBC Tide Table for Chesil Cove on Christmas day displayed below. What time is low water? *(Select all that apply)***

00:44
07:32
13:11
20:05
Other
Don't know



Respondents were asked to select all that apply. Two (correct) low water tides were available – at 00:44 and 13:11. A low proportion of respondents selected both correct answers. Respondents were scored 'correct' if they identified at least one of the low water times, as we suspect many just selected 13:11 because it was the lowest one and the one in daylight, so did not realise they could select two.

If this research was repeated, we would improve the instruction accordingly to select two or both low waters (day and night)

See more detail in Morris-Webb et al. (2025). Cut Off By The Tide: How Ocean Literacy Can Help Save Lives. Ocean and Society, Vol. 2, Article 9793. https://doi.org/10.17645/oas.9793

Question asked to assess MEDIUM ability to interpret tide timetable

Q16. **You would like to spend an afternoon at the beach when the tide is at the lowest. Read the EasyTide tide table below and tell us which is the best afternoon to go?** ***(Select one)***

Today
Thurs 16 Feb
Fri 17 Feb
Sat 18 Feb
Sun 19 Feb
Mon 20 Feb
Don't know

	High Water	Low Water	High Water	Low Water	High Water
Today	02:23 3.6m	10:09 1.9m	15:02 3.7m	23:09 1.8m	-
Thurs 16 Feb	03:58 3.7m	11:40 1.7m	16:42 3.8m	-	-
Fri 17 Feb	-	00:17 1.6m	05:24 4.0m	12:46 1.3m	17:59 4.1m
Sat 18 Feb	-	01:17 1.3m	06:28 4.5m	13:50 1.0m	18:59 4.5m
Sun 19 Feb	-	02:18 1.0m	07:23 4.9m	14:54 0.7m	19:51 4.8m
Mon 20 Feb	-	03:16 0.8m	08:13 5.2m	15:49 0.5m	20:38 5.1m

The correct answer is Mon 20 Feb.

Question asked to assess HIGH ability to interpret tide timetable

Q18. **You are walking to an island that gets cut off mid tide on the incoming tide. Read the tide tables below. What is the latest time you need to come off the island on each day to return in daylight?**

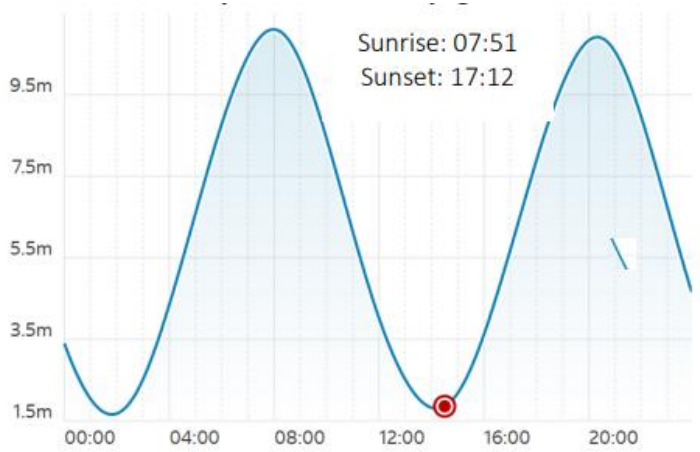
Today we must return before: ***(Select one)***

07:51
14:11
17:12
20:19
Don't know

The correct answer is 17:12

TODAY 7 FEB	WED 8 FEB	THU 9 FEB	FRI 10 FEB	SAT 11 FEB

	Time (GMT)	Height (metres)
Low	01:48	1.7
High	07:58	11.1
Low	14:11	1.8
High	20:19	10.9



See more detail in Morris-Webb et al. (2025). Cut Off By The Tide: How Ocean Literacy Can Help Save Lives. Ocean and Society, Vol. 2, Article 9793. https://doi.org/10.17645/oas.9793

Sample profile

		Total	UK	ROI
	Base (Number of respondents)	**1368**	**1266**	**102**
Gender	Male	48%	48%	44%
	Female	52%	52%	56%
	Identify as neither / Prefer not to say	0%	0%	0%
Age	18-24	12%	11%	14%
	25-34	16%	16%	17%
	35-44	16%	16%	22%
	45-54	17%	17%	19%
	55-64	16%	16%	13%
	65+	23%	24%	17%
Country of residence	England	73%	79%	-
	Wales	4%	5%	-
	Scotland	8%	8%	-
	Northern Ireland	8%	8%	-
	Republic of Ireland (ROI)	7%	-	100%

		Total	UK	ROI
Region	**Base (Number of respondents)**	**1368**	**1266**	**102**
England	North East	4%	4%	-
	North West	10%	10%	-
	Yorkshire and the Humber	7%	8%	-
	East Midlands	6%	7%	-
	West Midlands	8%	8%	--
	London	18%	20%	-
	South East	12%	13%	-
	South West	8%	8%	-
Republic of Ireland (ROI)	Border	1%	-	10%
	Dublin	2%	-	27%
	Mid East	1%	-	15%
	Midland	0%	-	6%
	Mid West	1%	-	11%
	South East	1%	-	9%
	South West	1%	-	14%
	West	1%	-	9%