



Department
for Environment
Food & Rural Affairs

Ocean Literacy in England & Wales

Headline Findings Report



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Introduction

The headline report

This report presents the headline findings for the *Survey on Ocean Literacy in the UK*. This survey was commissioned as part of the project *Understanding Ocean Literacy and Ocean Climate-related Behaviour Change in the UK* by Defra in collaboration with the Ocean Conservation Trust and Natural Resources Wales.

Across England and Wales, 8,440 people over the age of 16 participated in the online survey (6,032 England and 2,248 Wales). Fieldwork was conducted between 16 February and 15 March 2021.

Background

The main aim of the survey was to better understand the extent and current level of Ocean Literacy in the England and Wales.

The survey defines ‘Ocean Literacy’ as an understanding of the ocean’s influence on a person and their influence on the ocean.

The survey explored different dimensions of ‘Ocean Literacy’: including information on public awareness, knowledge, attitudes, communication, activism and behaviours related to the marine environment.

The survey also explored barriers to promoting Ocean Literacy in the population.

Survey scope

The objectives of the survey were to:

- Provide robust information on the extent to which the public **understands and are aware of** the benefits they receive from the marine environment.
- Identify pro-environmental **behaviours** among the public in relation to the marine environment, for example, switching to energy from marine renewable sources, buying more locally produced seafood products and using more public transport.
- Measure the extent of the public's **attitudes** towards protecting the marine environment, including intentions for change.
- Provide estimates of the level and type of **engagement** with the marine environment, including visits and activities undertaken in the last 12 months, and identify the barriers and drivers that shape participation.
- Provide information on the impact of visits to the marine environment on **wellbeing**.

A note on the data in this report:

The findings in this report describe proportions of respondents from an overall weighted base. The weighted base is the adjusted sample size within each sub-group after weighting procedures have been applied to reflect the relative proportions of the population based on key socio-demographic and geographic information. This is applied to the overall unweighted base of 8,440 respondents, which is the total number of survey responses achieved.

The figures presented in the report have been rounded to the nearest whole percentage.

Further details about the methodology used in the survey, including sample design, weighting and demographic information are outlined in the [technical report](#).

Further publications related to this survey:

- A [technical report](#) containing details of the survey methodology
- [Data tables](#) in excel providing more detailed survey results
- [*Understanding Ocean Literacy and Ocean Climate-related Behaviour Change in the UK – Work Package 1: Evidence Synthesis*](#). Report produced for Ocean Conservation Trust and Defra.









Dimensions of Ocean Literacy

Brennan et al. (2019) defined Ocean Literacy as having six dimensions: awareness, knowledge, attitudes, communication, behaviour and activism.

However there are a number of other related models and concepts and the definition of Ocean Literacy continues to evolve. In addition to the six dimensions listed above, this report includes two additional dimensions: Personal or emotional connection and Access experience & proximity.

Further detail on these dimensions and the supporting evidence for them can be found in the 2020 report [Understanding Ocean Literacy and Ocean Climate-related Behaviour Change in the UK](#), prepared for Defra and the Ocean Conservation Trust review.

To the bottom right of each slide in this report, coloured squares can be found denoting which dimension of Ocean Literacy relates to the findings presented. Lettered codes are also included within the squares.

-  Awareness (Aw)
-  Knowledge (K)
-  Attitudes (At)
-  Communication (C)
-  Behaviour (B)
-  Activism (Ac)
-  Personal or emotional connection (PE)
-  Access, experience & proximity (AEP)

Summary of key findings

<p>Awareness</p> <p>% believe health of marine environment is very good/good</p> <p>Global 12% England and Wales 17%</p> <p>% with very good/good awareness of global challenges 32%</p>	<p>Activism</p> <p>Top 3 pro-marine acts</p> <p>Lifestyle changes 39% Petitions 26% Membership of organisation 15%</p>	<p>Emotional / personal connection</p> <p>Top 3 emotional terms</p> <p>Concern 49% Aware/wonder 42% Curiosity 28%</p>
<p>Knowledge</p> <p>Marine terms with some understanding</p> <p>Climate change 93% Sustainable fishing 85% Sustainable development 73%</p>	<p>Behaviour</p> <p>Top 3 pro-climate behaviours</p> <p>Recycling 81% Reduced plastic 73% Reuse plastic 68%</p> <p>Have or plan on making lifestyle changes 78%</p>	<p>Access, experience & proximity</p> <p>Never visited the marine environment 11%</p> <p>Top activities</p> <p>Walking 62% Photography 31% Dog walking 27%</p> <p>Outcomes of visits</p> <p>Mental health 84% Physical health 80% Time with others 56%</p>
<p>Attitudes</p> <p>Top 3 benefits from marine environment</p> <p>Plant and animal habitats 53% Food 40% Weather & climate control 31%</p> <p>3 highest threats to the marine environment</p> <p>Litter and plastic pollution 74% Chemical pollution 57% Overfishing 54%</p>	<p>Reasons for changes</p> <p>Concern about climate 69% Desire to be greener 68% Care for marine environment 63%</p> <p>% believe lifestyle has impact 53%</p>	<p>Ocean Literacy Principles</p> <p>% Mostly or completely true</p> <p>The ocean supports a great diversity of life and ecosystems 92%</p> <p>The ocean is largely unexplored 77%</p> <p>The ocean is a major influence on weather and climate 83%</p>
<p>% protecting marine environment very important/important 85%</p> <p>% Human activity contributes to climate change 49%</p>	<p>Communication</p> <p>Sources of knowledge about the marine environment</p> <p>Television/radio 48% Films/Nature/Wildlife 47% News 46%</p>	

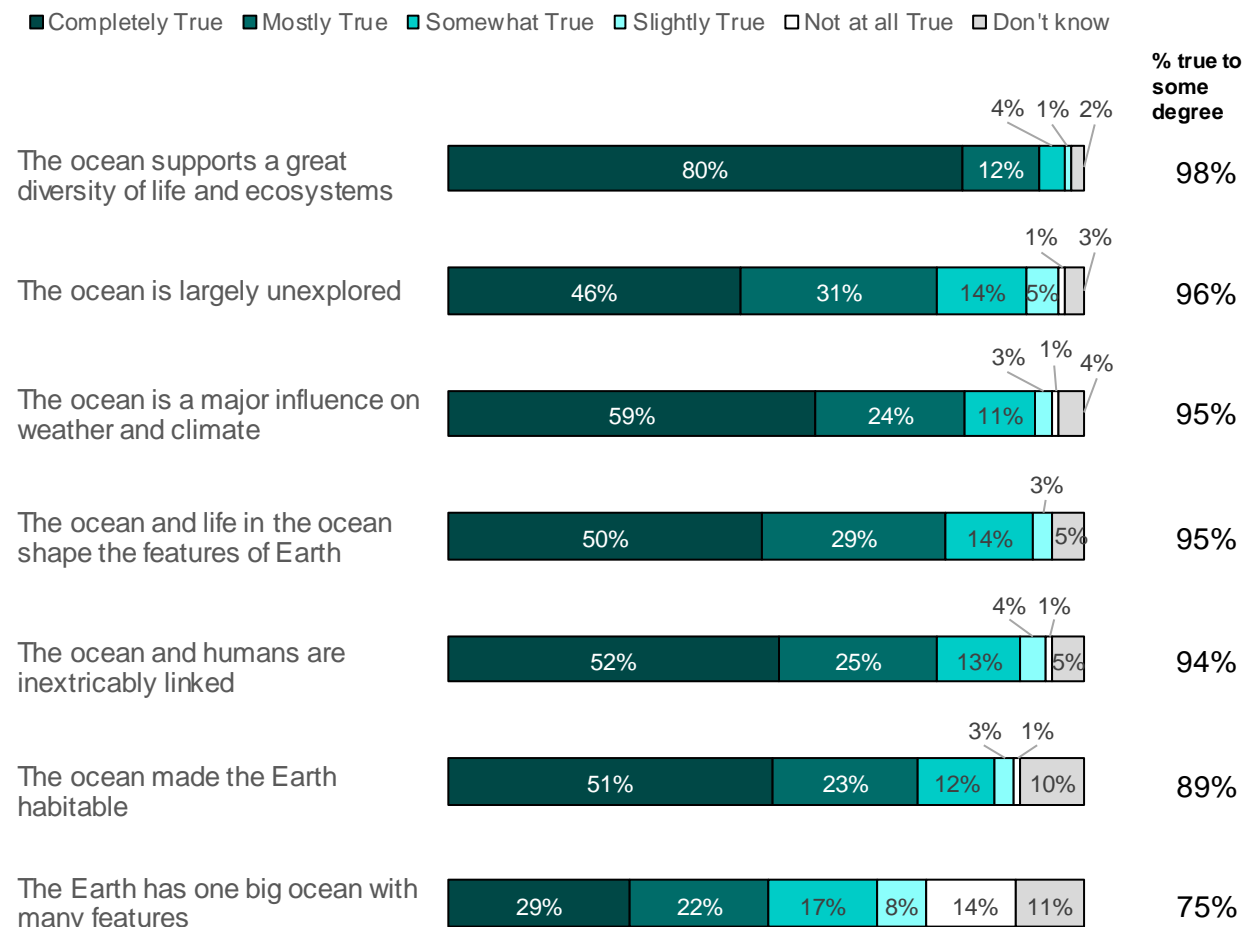
1. Principles of Ocean Literacy

Although there is no agreed definition, [seven principles](#) related to people’s understanding of the impact on the ocean and the ocean’s impact on them are commonly used to describe Ocean Literacy.

Survey respondents were asked to indicate the extent to which they believed these principles were true (Figure 1).

The vast majority believed that the principles were true to some degree, ranging from 98% who said the “*The ocean supports a great diversity of life and ecosystems*” was true to 75% who said “*The Earth has one big ocean with many features*” was true.

Figure 1: Extent to which Ocean Literacy principles are perceived to be true (weighted %)



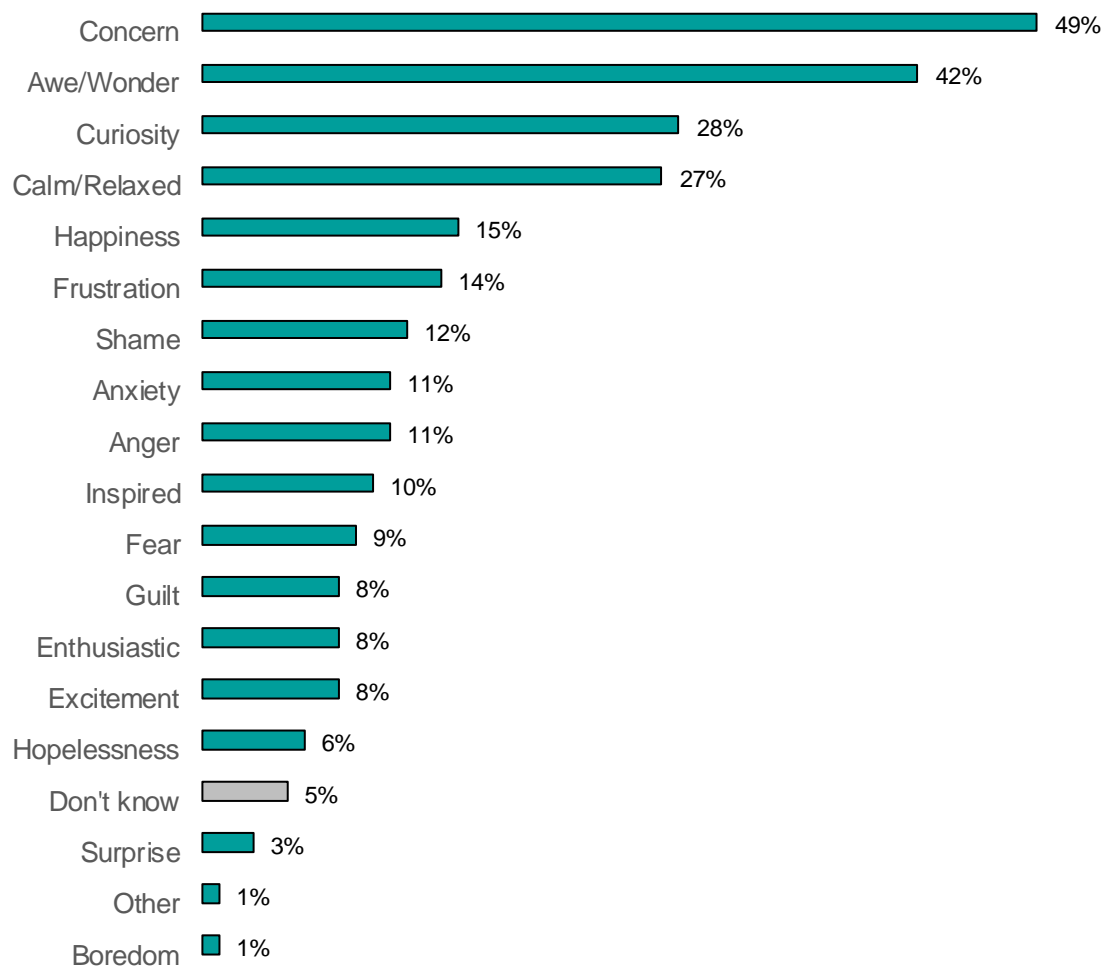
Q3: The following are principles about the marine environment. Please indicate how true you believe each statement to be. Unweighted base: 8,440

2. Emotional responses to the marine environment

Concern (49%) was the most commonly reported feeling when asked to think about the marine environment, closely followed by awe/wonder (42%). Curiosity (28%) and (27%) calm/relaxed were also frequently reported feelings (Figure 2).

Few respondents associated marine environments with boredom (1%), surprise (3%) or hopelessness (6%).

Figure 2: Emotional responses to the marine environment (weighted %)



Q2: How do you feel when you think about the marine environment? Please select the three emotions which come closest to how you feel.
Unweighted base: 8,440

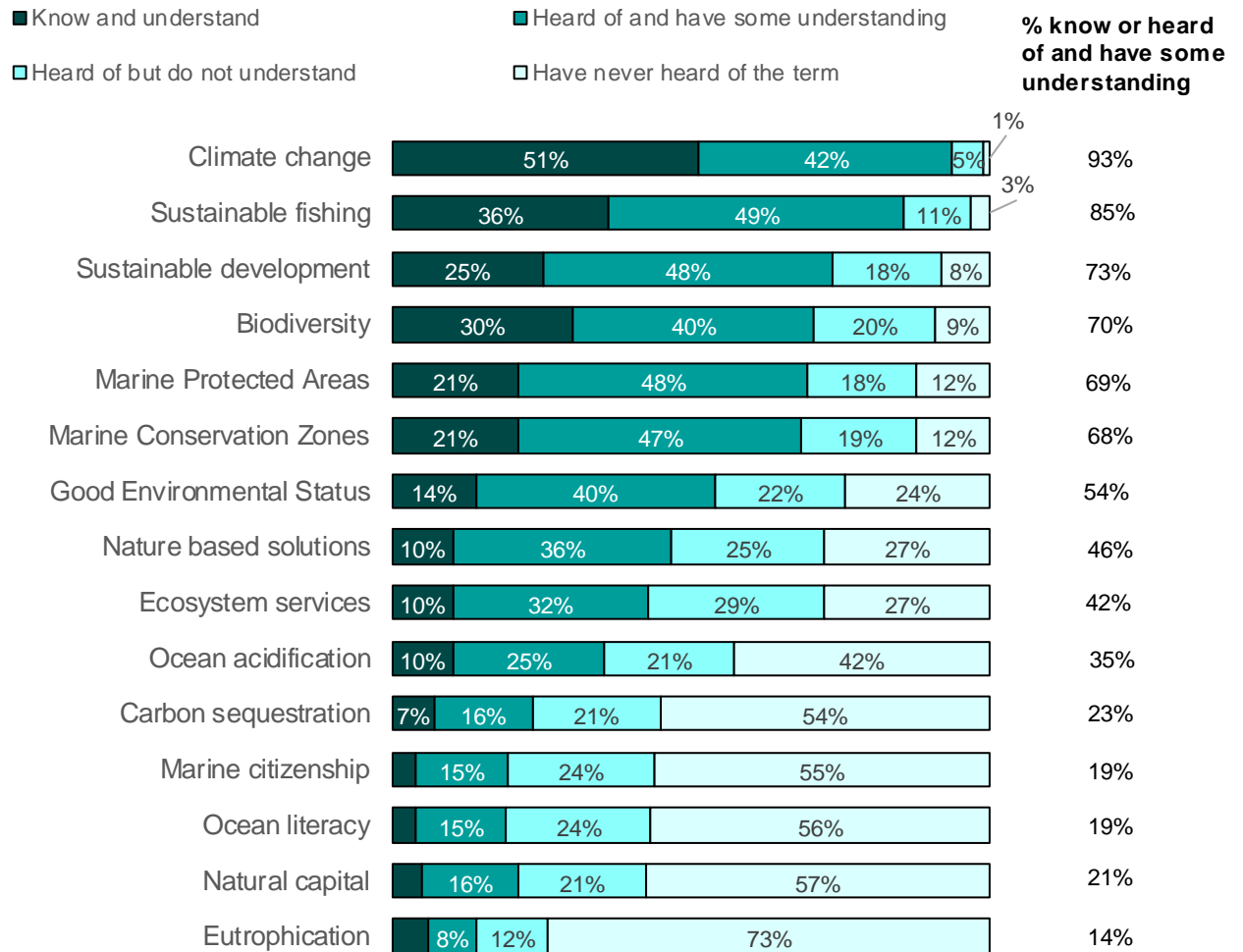
3. Knowledge of marine terms

Climate change (93%) and sustainable fishing (85%) were the terms most commonly known and understood (to at least some degree) (Figure 3).

Other familiar terms were sustainable development (73%), biodiversity (70%), Marine Protected Areas (69%) and Marine Conservation Zones (68%).

In contrast almost three quarters said they had never heard of eutrophication (73%). Other terms which the majority had never heard of were natural capital (57%), Ocean Literacy (56%), marine citizenship (55%) and carbon sequestration (54%).

Figure 3: Knowledge and understanding of marine terms (weighted %)



Q7: Please indicate how familiar you are with each of these terms by selecting the relevant box
Unweighted base: 8,440

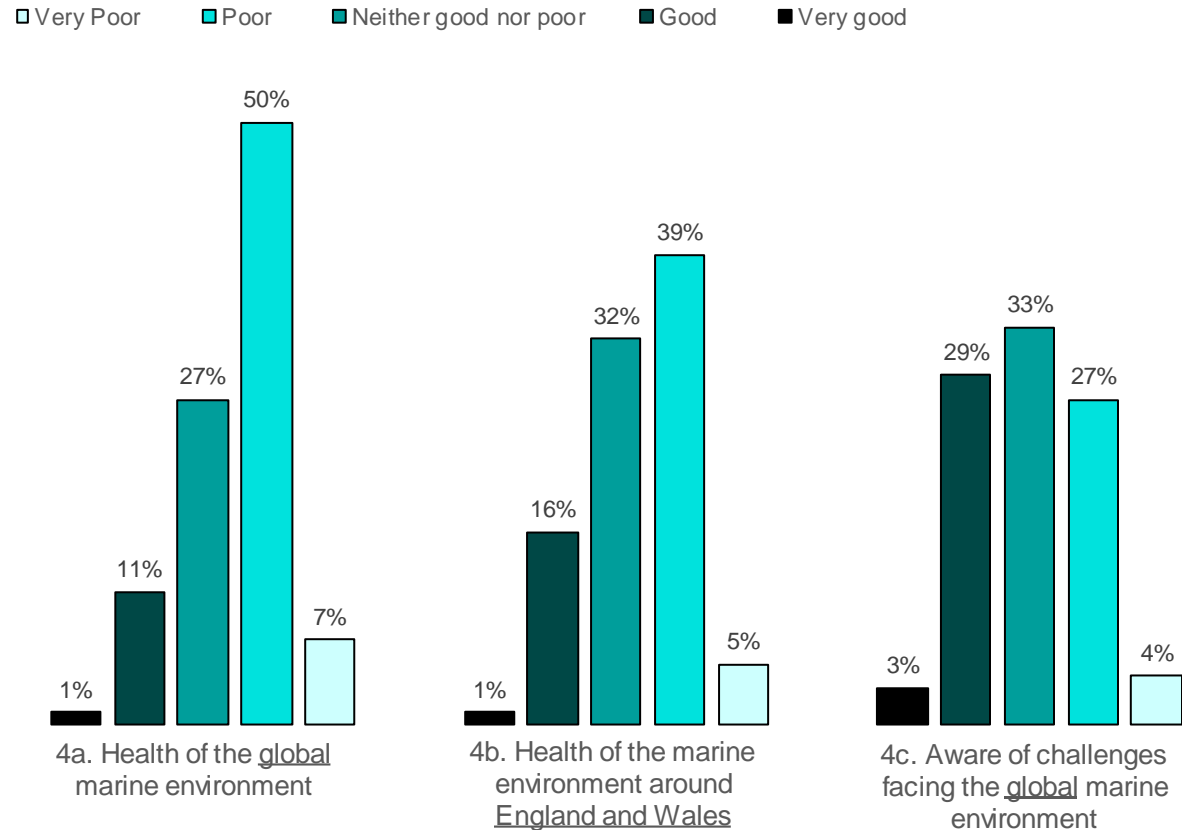
4. Perceptions of marine health and challenges

57% rated the health of the global marine environment as poor or very poor. 12% rated it as good or very good (Figure 4a)

A lower proportion rated the health of the England and Wales marine environment as poor or very poor (44%) compared to the global marine environment. 17% rated it as good or very good (Figure 4b).

Although 31% considered their awareness of the challenges facing the global marine environment to be poor or very poor, a near equal proportion of respondents rated their awareness as good or very good (32%) (Figure 4c).

Figure 4: Perceptions on the health of and challenges facing the marine environment (weighted %)



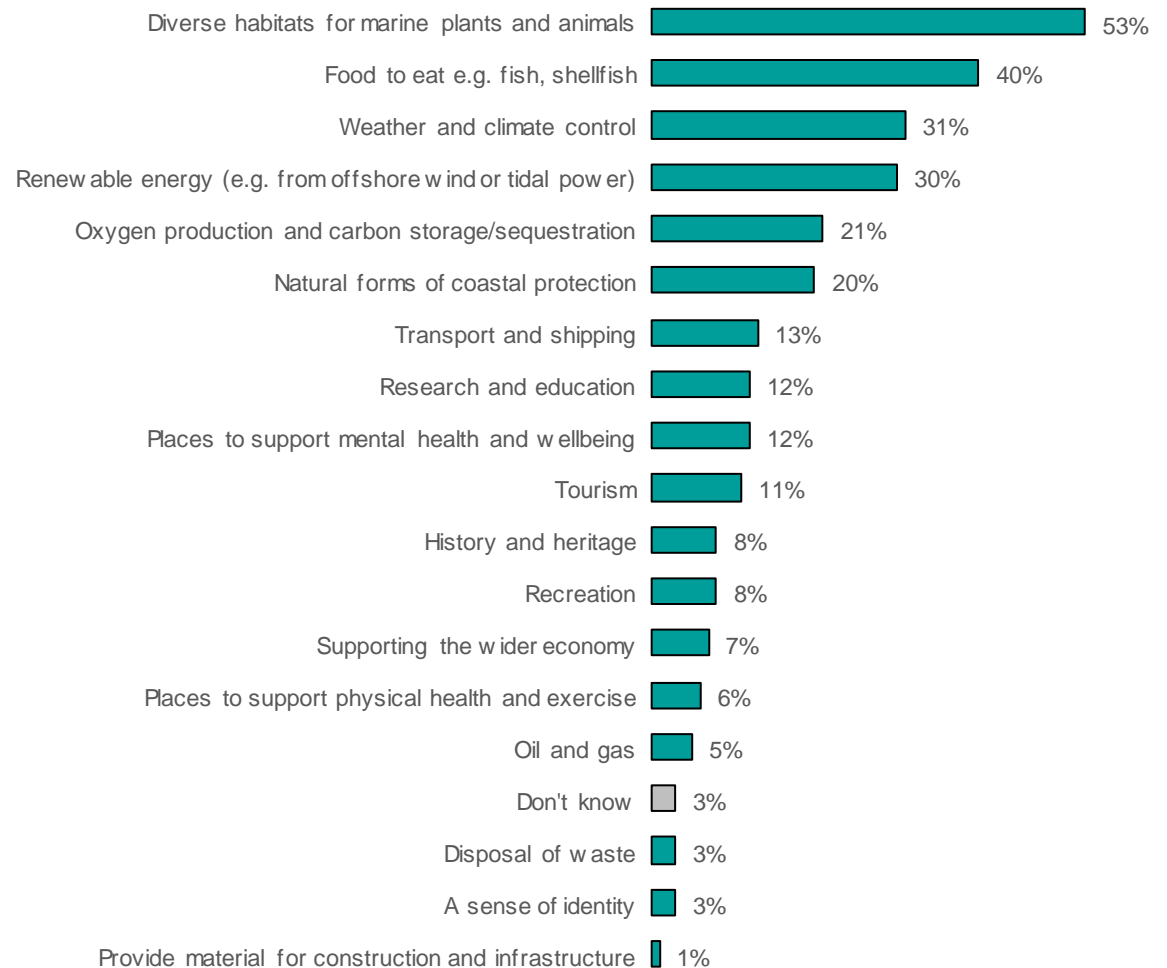
Q4: How good or poor would you rate the health of the global marine environment?
 Q5: How good or poor would you rate the health of the marine environment around England/Wales?
 Q6: How would you rate your awareness of challenges facing the global marine environment
 Unweighted base: 8,440

5. Benefits of the marine environment

When asked what they thought three most important benefits are of the marine environment in England and Wales (Figure 5), the top response was diverse habitats for marine plants and animals (53%) followed by food to eat (40%), weather and climate control (31%) and renewable energy (30%).

In contrast, very few people felt that providing material for construction and infrastructure (1%), a sense of identity (3%) and disposal of waste (3%) were important benefits.

Figure 5: Most important benefits of the marine environment for society (weighted %)



Q9: In your opinion, what are the three most important benefits that society gains from the marine environment in England/Wales?
Unweighted base: 8,440

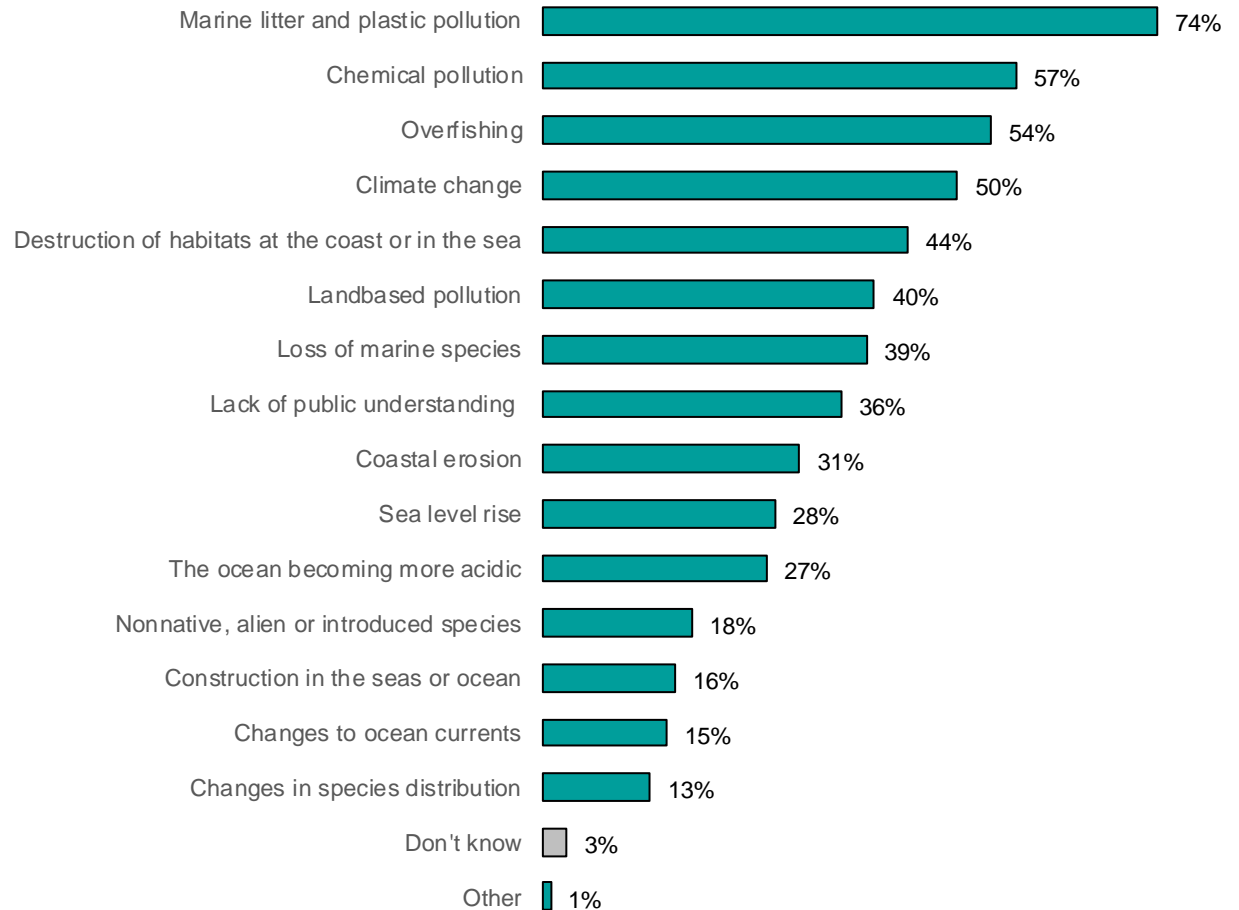
6. Threats to the marine environment

Respondents were asked what they thought posed the most threat to the marine environment in England and Wales (Figure 6)

Marine litter and plastic pollution was the pressure most commonly chosen (74%) whilst chemical pollution (57%), overfishing (54%) and climate change (50%) also ranked highly.

Pressures which were least likely to be selected as posing a threat to the marine environment were changes in species distribution (13%), changes to ocean currents (15%) and construction in the seas or ocean (16%).

Figure 6: Pressures posing most threat to the marine environment (weighted %)



Q10: Which of the following, if any, do you think pose the most threat to the marine environment in England/Wales?
Unweighted base: 8,440

7. Responding to threats to the marine environment

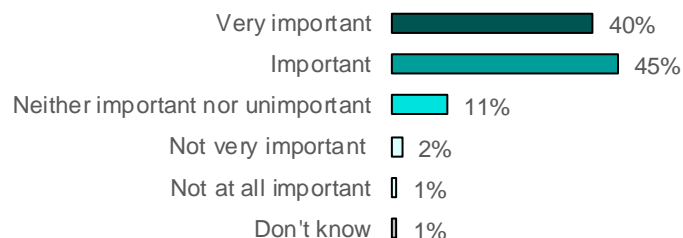
85% said that protecting the marine environment is very important or important to them. Only 3% said that it was not very/at all important (Figure 7).

A range of activities addressing other issues affecting the marine environment (i.e. non ocean climate issues) in England/Wales were provided to respondents who were asked to select the three most important (Figure 8).

Regulating single-use plastics (55%) was the top choice, followed by controls on pollution from industry and/or agriculture (42%) and changing consumption and behaviour to reduce waste and marine pollution (42%).

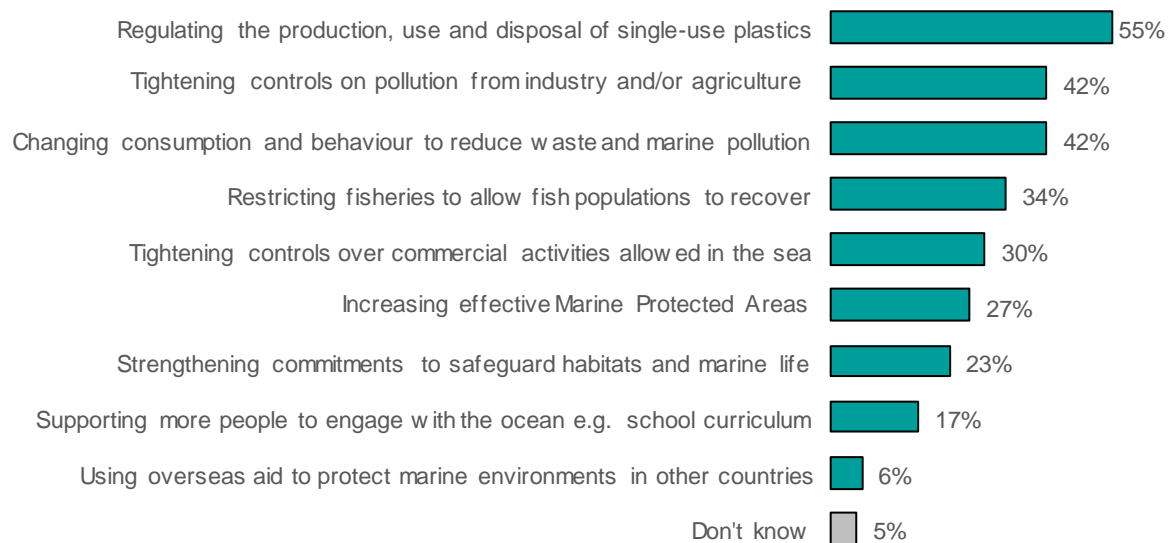
The activity least likely to be selected was using overseas development aid (6%).

Figure 7: Importance of protecting the marine environment (weighted %)



Q8: How important is protecting the marine environment to you personally?
Unweighted base: 8,440

Figure 8: Most important activities to address marine issues (weighted %)

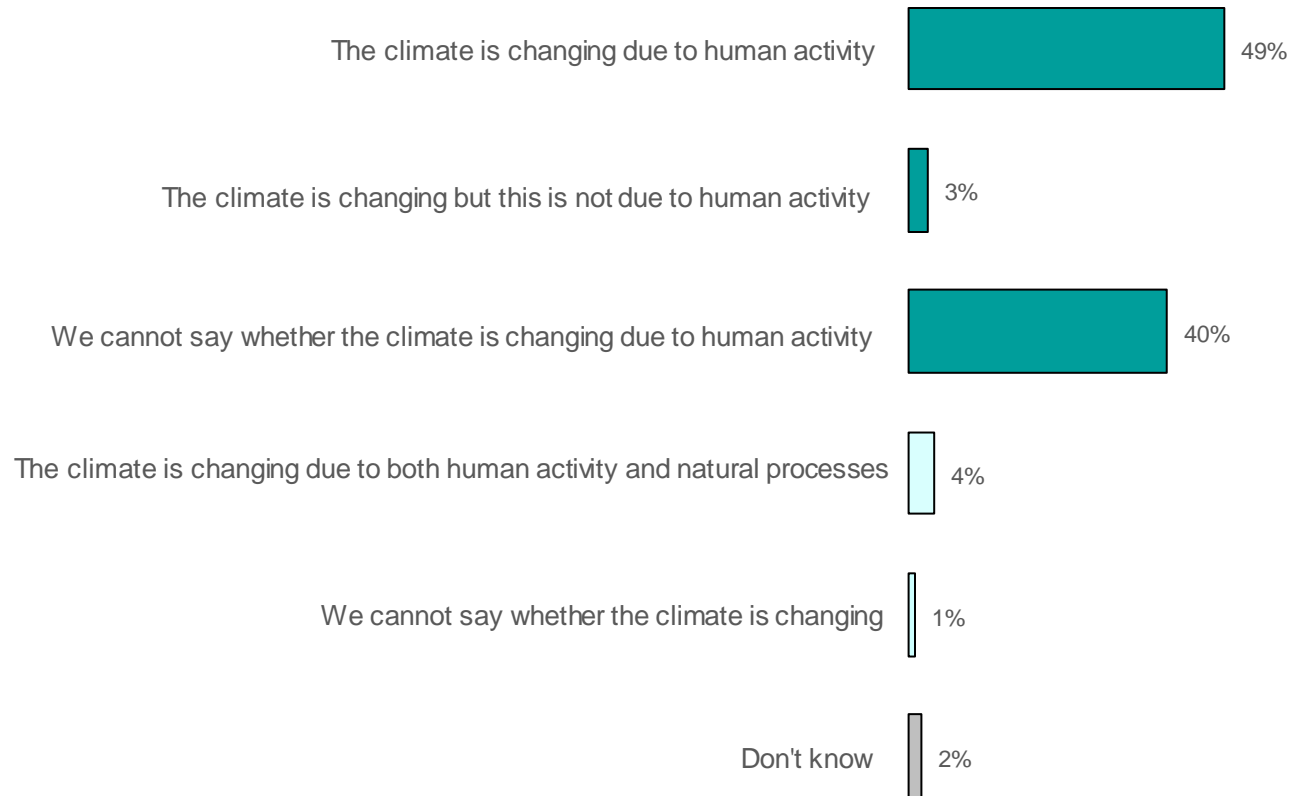


Q13: The following activities all address other issues affecting the marine environment in England/Wales. In your opinion, which three do you think are the most important?
Unweighted base: 8,440

8. Attitudes to climate change

When asked about their view on climate change, the vast majority said the climate is changing (96%). However views were more split on causes of climate change with 49% saying this is due to human activity and 44% saying we cannot say whether it is due to human activity or it is due to both human activity and natural processes. Only 3% said climate change was not due to human activity (Figure 9).

Figure 9: Views on climate change and role of human activity (weighted %)



Q11: Thinking about the changing climate and human activity, which of the following statements come closest to your view?
Unweighted base: 8,440

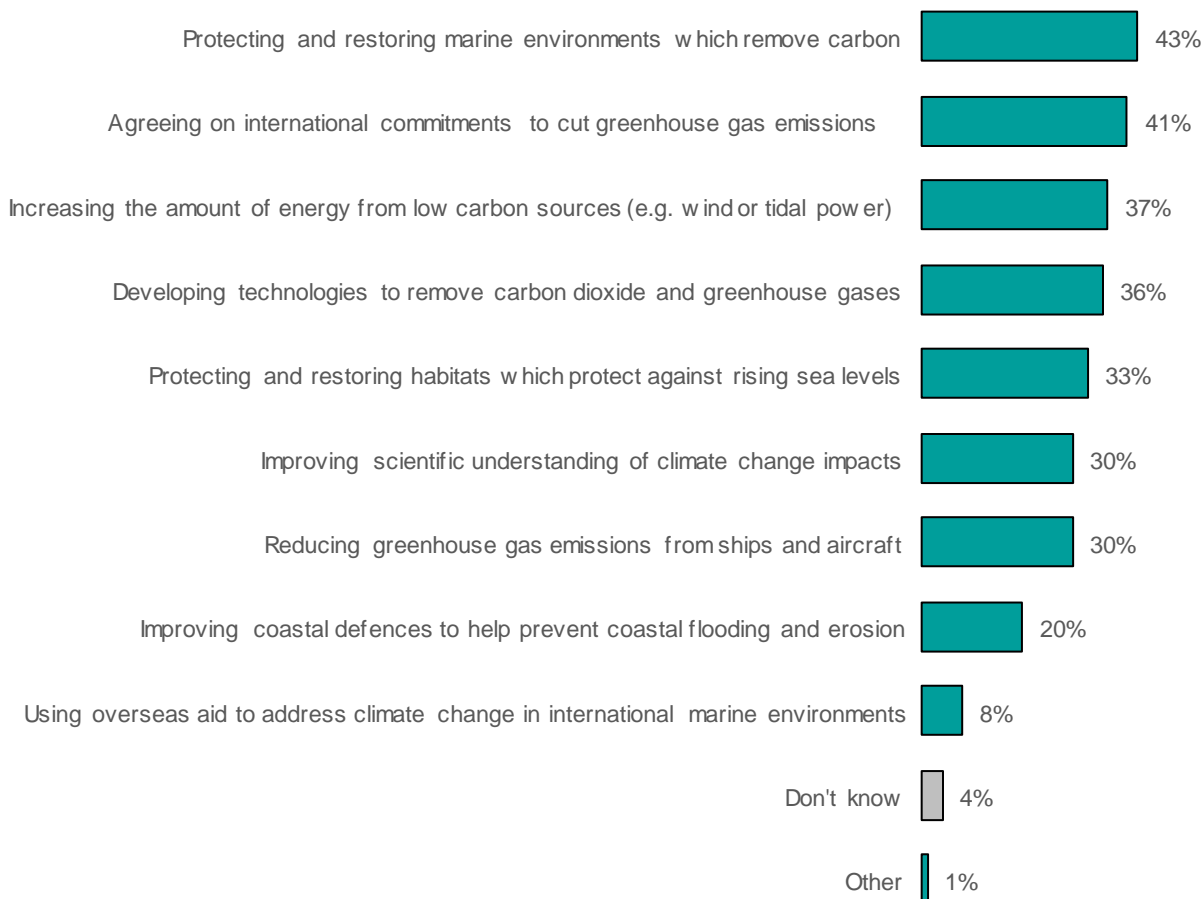
9. Responding to ocean climate change

Respondents were asked to choose the top three most important activities which could potentially address the effect of climate change on the marine environment in England and Wales (Figure 10).

Protecting and restoring marine environments which remove carbon (i.e. nature-based solutions) was the top choice (43%), closely followed by international commitments to reducing emissions (41%).

Improving coastal defences to help prevent coastal flooding/erosion (20%) and use of overseas development aid (8%) were least likely to be considered as important.

Figure 10: Most important activities to address ocean-related climate change (weighted %)



*Q12: The following activities could potentially address the effects of climate change on the marine environment in England/Wales. In your opinion, which three do you think are the most important?
Unweighted base: 7,820*

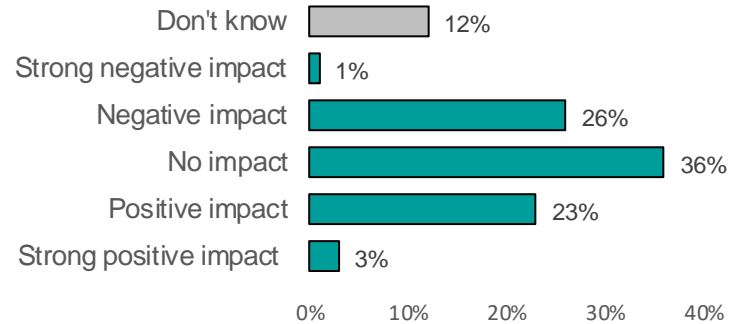
10. Lifestyle impacts & changes

Overall, 53% thought their lifestyle has an impact on the marine environment. An almost equal proportion thought that their lifestyle had a positive impact (26%) compared to a negative impact (26%) (Figure 11).

Only 13% said they won't or don't think they will make changes to their current lifestyle within the next 12 months in order to protect the marine environment in England/Wales (Figure 12).

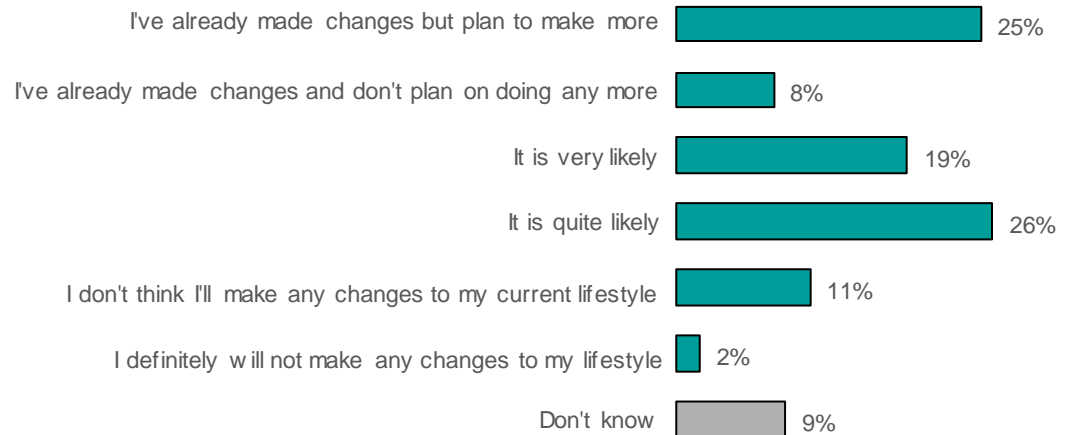
25% said they've already made changes but plan on doing more, whilst 45% said it's quite or very likely they will make changes. 8% said they've already made changes but don't plan on doing any more.

Figure 11: Perceived impact of lifestyle on the marine environment? (weighted %)



Q17: *What impact do you think your lifestyle has on the marine environment of England/Wales?*
Unweighted base: 8,440

Figure 12: Planned lifestyle changes to protect the marine environment (weighted %)



Q22: *Within the next 12 months, do you plan on making changes to your lifestyle to protect the marine environment in England/Wales?*
Unweighted base: 8,440

11. Lifestyle changes

The top reasons for making or planning lifestyle changes (Figure 13) were concern over climate change (69%), desire to be greener (68%), desire to care and protect (63%) and concerns about impacts on the marine environment (62%).

In contrast, the top reason for not making lifestyle changes (Figure 14) was already doing as much as possible (44%) followed by thinking it would not have an impact (23%) and it being too expensive (23%).

Figure 13: Reasons for changing lifestyle in last 12 months (weighted %)

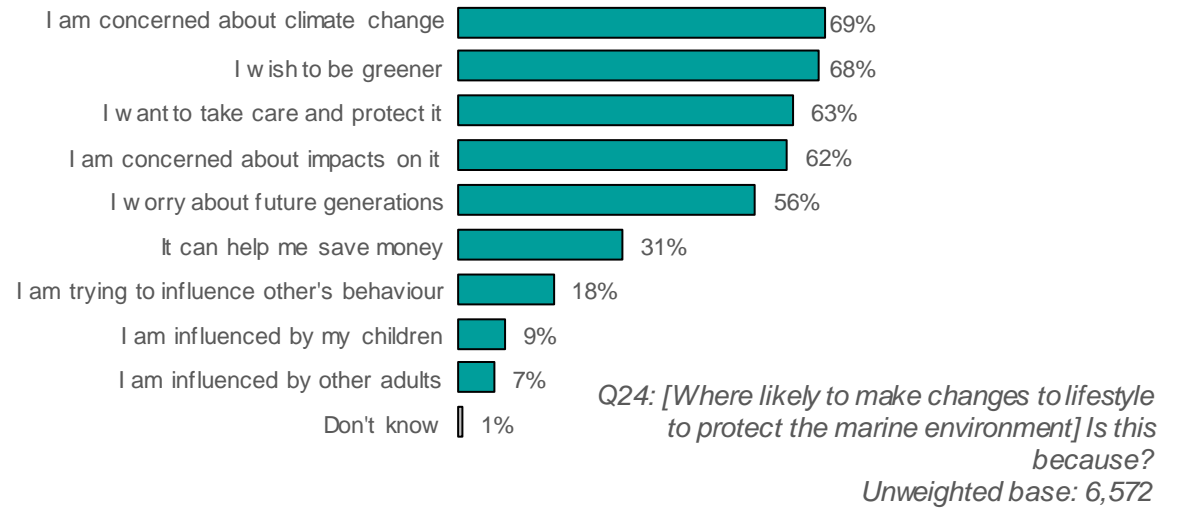
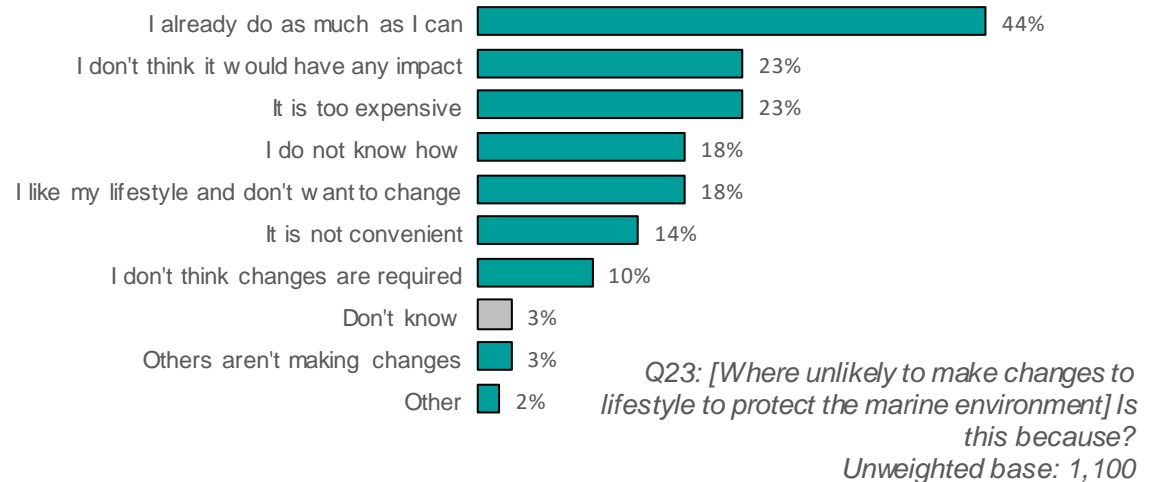


Figure 14: Reasons for not changing lifestyle in last 12 months (weighted %)



12. Purchasing and packaging actions

The most common activity undertaken in relation to purchases and packaging in the last 12 months was recycling more (81%) (Figure 15). A high proportion also said they had reduced single use plastics (73%) and had re-used plastic as much as possible (68%).

The least common activities were buying second-hand items (38%) and avoiding products known to harm the marine environment (34%) although these were still done by more than a third of respondents.

Figure 15: Activities done in the last 12 months in relation to purchases and use of packaging (weighted %)



Q18: Thinking about the purchases you have made and your use of packaging, which of the following activities have you done in the last 12 months where possible?

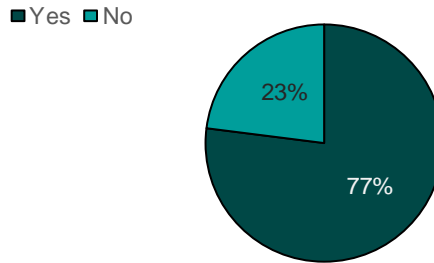
Unweighted base: 8,440

13. Seafood purchasing actions

77% said that they purchase seafood (fish or shellfish) (Figure 16).

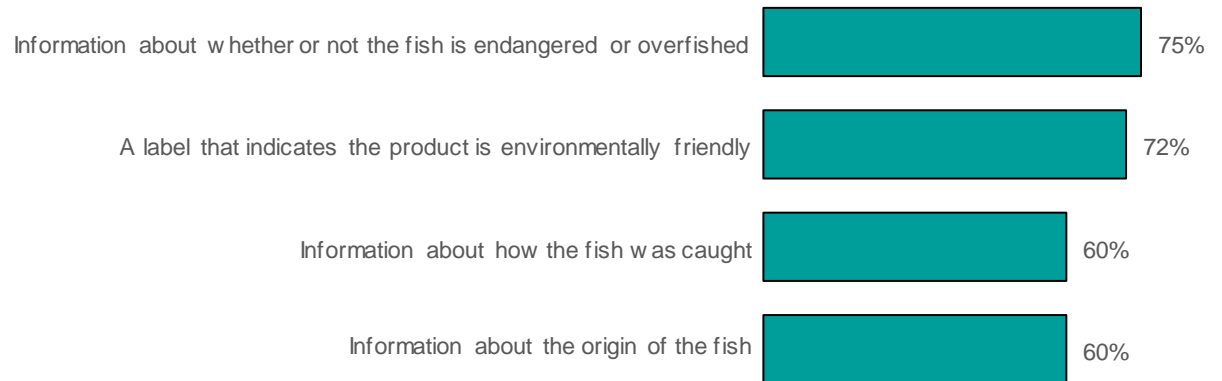
Of these, 75% said that information about whether or not the fish is endangered or overfished influenced their purchase (Figure 17). Labels indicating the product was environmental friendly influenced 72% of people who bought seafood. Less significant, but still influencing the majority of people was information about how the fish was caught (60%) and the origin of the fish (60%).

Figure 16: Seafood (fish or shellfish) purchasing (weighted %)



Q19: Do you ever purchase seafood (fish or shellfish)?
Unweighted base: 8,440

Figure 17: Information influencing seafood purchase (weighted %)



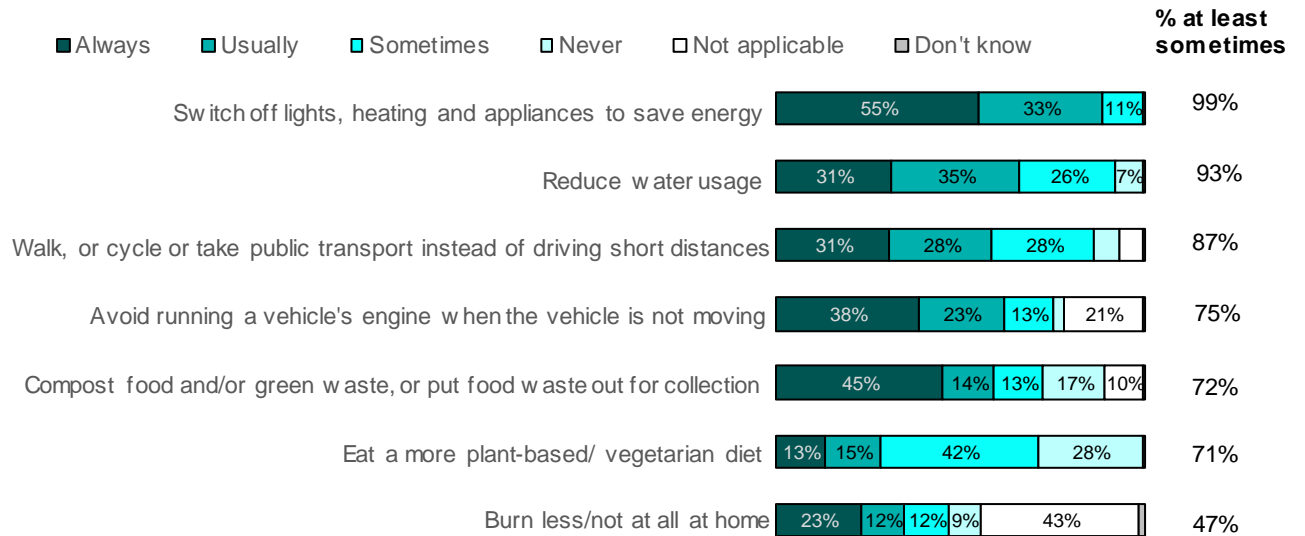
Q20: When buying seafood (fish or shellfish), to what extent, would each of the following influence your purchase?
Unweighted base: 6,485

14. Food, energy and transport actions

99% switch off lights, heating and appliances to save energy, 93% reduce water usage and 87% walk/cycle/take public transport instead of driving short distances at least sometimes (Figure 18).

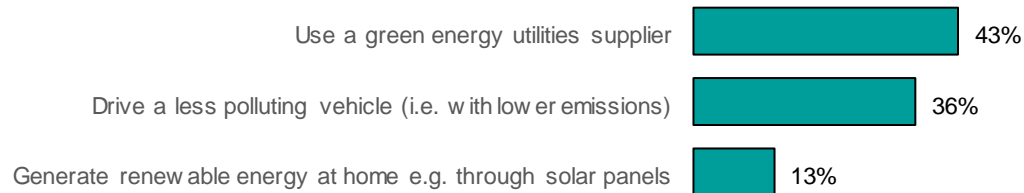
While 43% of people use green energy utilities suppliers and 36% drive less polluting vehicles, only 13% generate renewable energy at home (Figure 19).

Figure 18: Frequency of food, energy and transport actions (weighted %)



Q21: Thinking about your food, energy and transport use, which of the following do you currently do?
Unweighted base: 8,440

Figure 19: Current energy and vehicle use (weighted %)



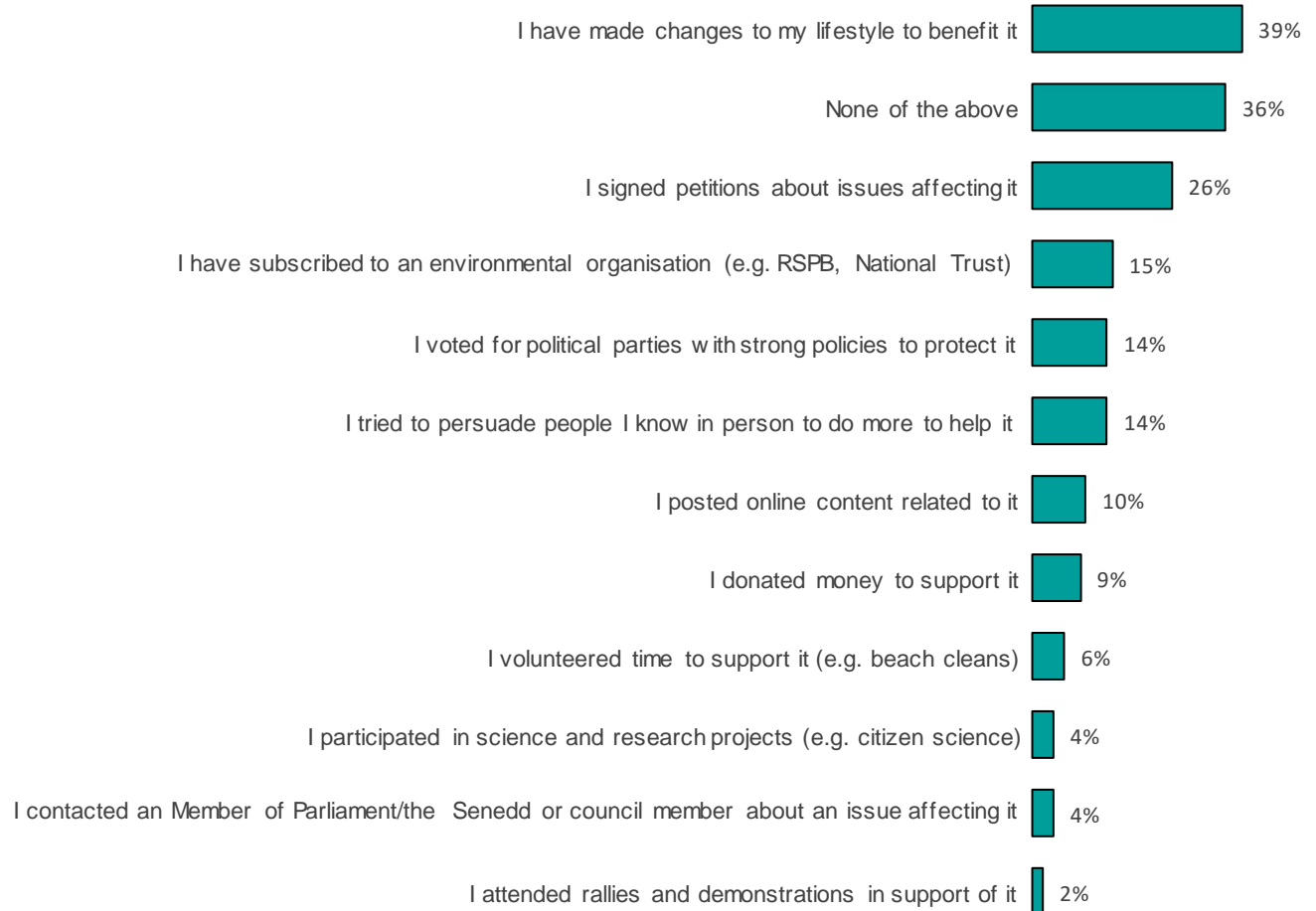
Q21: Thinking about your food, energy and transport use, which of the following do you currently do?
Unweighted base: 8,440

15. Marine activism

The most common action people had undertaken to protect the marine environment was making lifestyle changes (39%) followed by signing petitions (26%) and subscribing to environmental organisations (15%) (Figure 20).

Contacting elected representatives (4%), involvement in citizen science (4%) or direct action in rallies or demonstrations (2%) were the least undertaken actions whilst 36% said they had undertaken none of the activities listed.

Figure 20: Activities undertaken to protect the marine environment (weighted %)



Q15: Which of the following activities, if any, have you done to protect the marine environment in England/Wales?
Unweighted base: 8,440

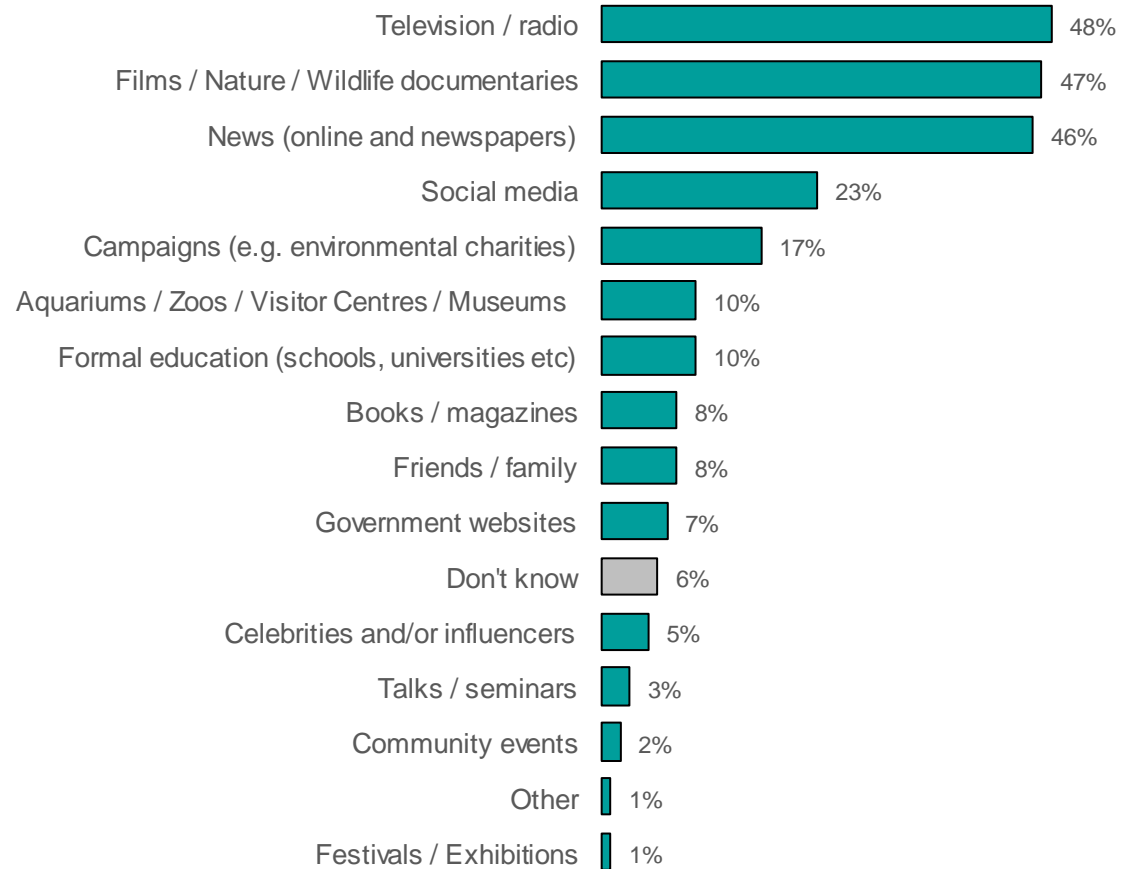
16. Communicating about the marine environment

The most common sources of knowledge/information about the marine environment in the last 12 months was TV and Radio (48%), films, nature and wildlife documentaries (47%) and news media (46%) (Figure 21).

While social media was indicated by 23% of respondents, only 5% indicated a role for celebrities or influencers.

The least common sources were talks/seminars (3%), community events (2%) and festivals/exhibitions (1%).

Figure 21: Sources of knowledge about the marine environment (weighted %)



Q14: Thinking about the last 12 months, where do you think your knowledge/information about the marine environment in England/Wales has mostly come from? Please select a maximum of three
Unweighted base: 8,440

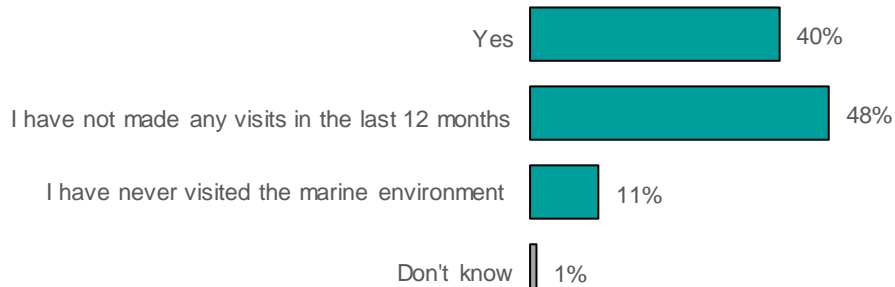
17. Visiting the marine environment

In the last 12 months, 40% had visited the marine environment. 48% had not visited in the last 12 months and 11% had never visited (Figure 22).

Most respondents travelled less than 50 miles (66%) but 32% travelled more than 50 miles and 25% travelled 11 – 50 miles (Figure 23).

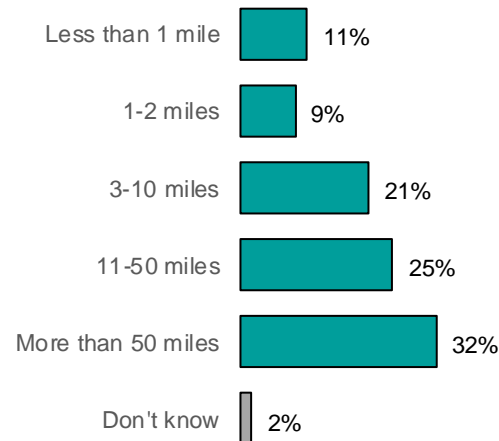
By far the most common form of transport used to travel to marine environments was car / van or motorbike (75%) (Figure 24).

Figure 22: Visits to the marine environment in the last 12 months (weighted %)



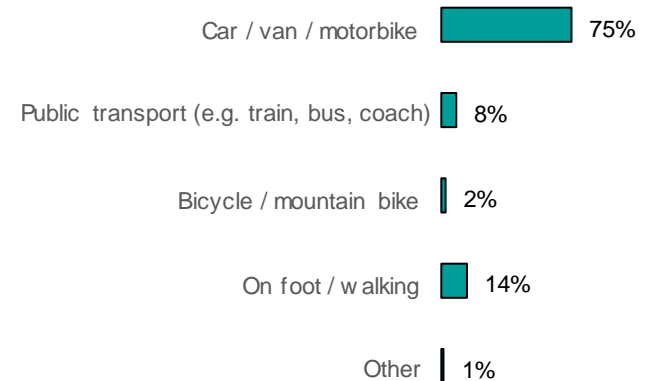
Q25: Thinking about the last 12 months have you made any visits to a marine environment?
Unweighted base: 8,440

Figure 23: Distance travelled for visit (weighted %)



Q31: Approximately how far in miles did you travel to get there?
Unweighted base: 3,621

Figure 24: Main mode of transport used for visit (weighted %)



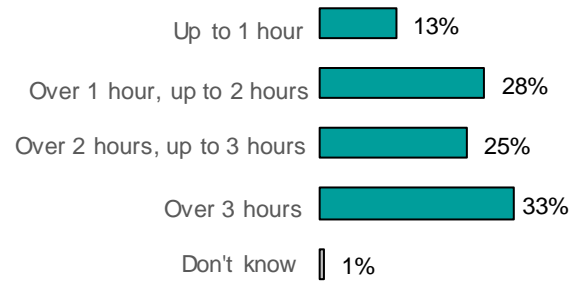
Q32: What was the main form of transport you used to get there?
Unweighted base: 3,621

18. Length of visits

Of those who had visited the marine environment in the last 12 months, the most common length of time spent there at their last visit was over 3 hours (33%) (Figure 25).

The majority of respondents who stayed over 3 hours also stayed overnight (54%) (Figure 26) with the most popular length for an overnight stay being 3 nights (18%) or 7 nights (18%) (Figure 27).

Figure 25: Length of visit time (weighted %)



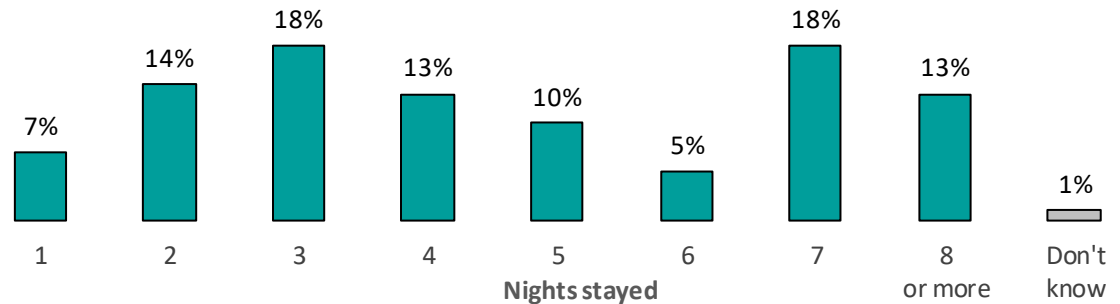
Q28: *Thinking about your most recent visit to the marine environment over the last 12 months, how long did you spend there?*
Unweighted base: 3,621

Figure 26: Overnight stay (weighted %)



Q29: *Did you stay overnight away from home during this trip?*
Unweighted base: 1,080

Figure 27: Number of nights stayed (weighted %)

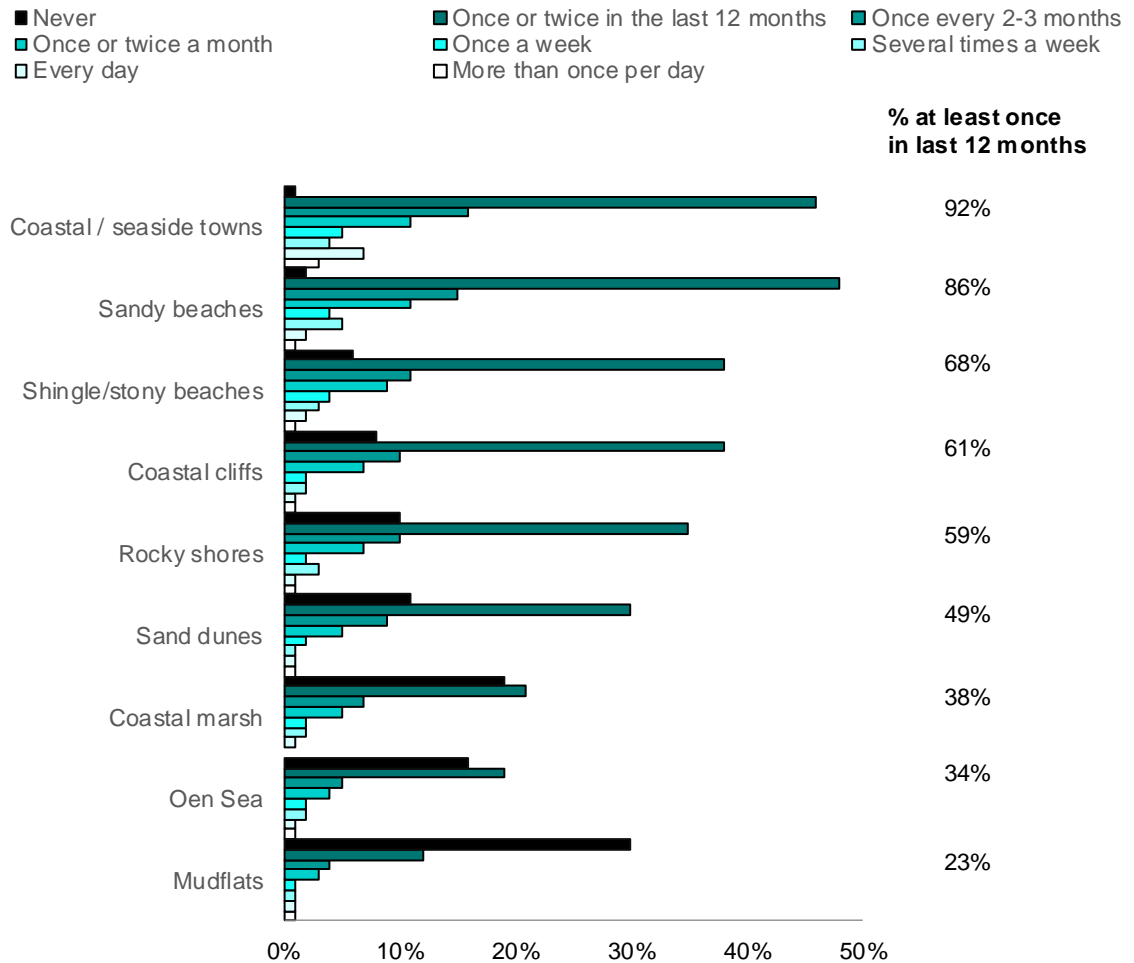


Q30: *How many nights did you stay away from your home during this trip?*
Unweighted base: 536

19. Marine destinations

Of those respondents who had visited the marine environment in the past 12 months, the places most visited for leisure were coastal/seaside towns (92%) and sandy beaches (86%). Open sea (34%) and mudflats (23%) were the least visited (Figure 28).

Figure 28: Frequency of visits by marine environment types (weighted %)

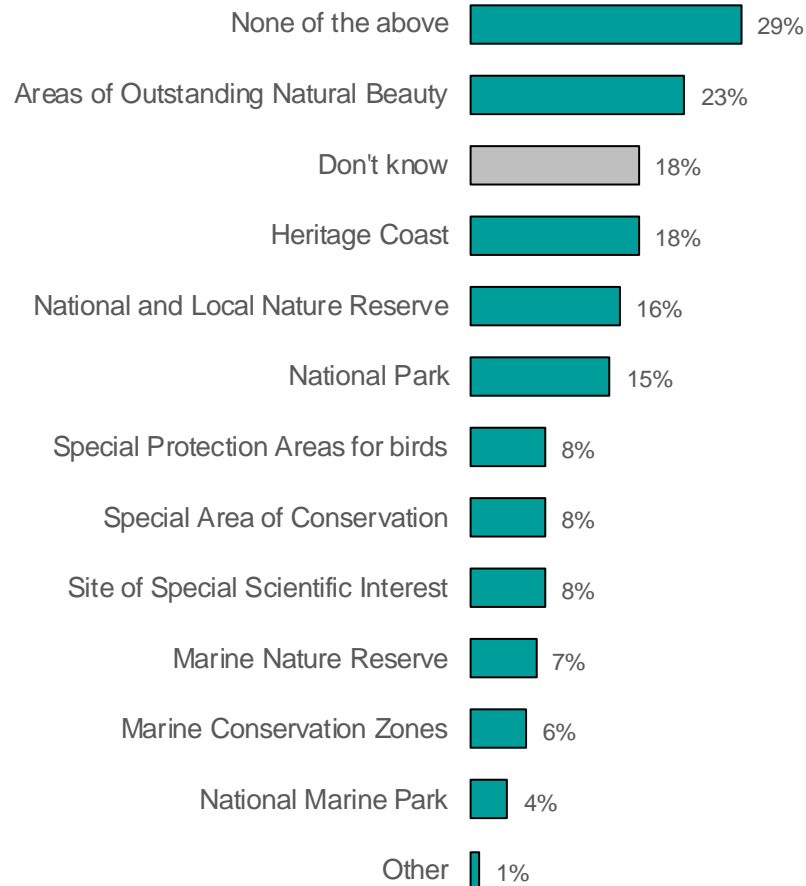


Q26: Thinking about the last 12 months, how often on average, if at all, have you spent your leisure time in the following marine environments. This does not include indoor locations and places which you visit as part of your job.
Unweighted base: 3,621

20. Marine destinations

Whilst 29% said they hadn't visited any designated or specific types of sites in the last 12 months, 23% said they recalled visiting Areas of Outstanding Natural Beauty, followed by Heritage Coast (18%), National and Local Nature Reserves (16%) and National Parks (15%) (Figure 29).

Figure 29: Designated/specific types of sites visited on most recent visit (weighted %)



Q35: Thinking about the last 12 months, do you recall any visits to marine environments being to the following?

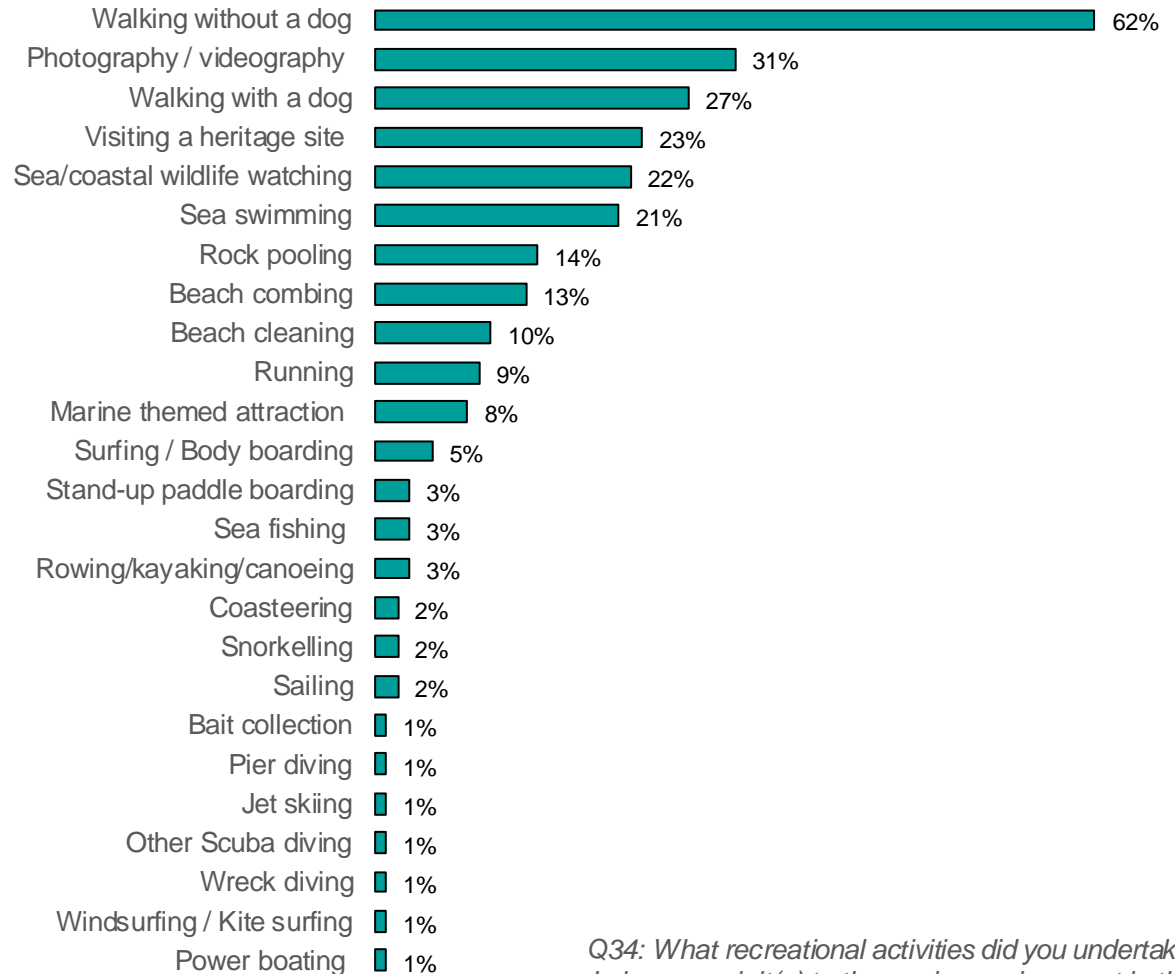
Unweighted base: 3,621

21. Recreational activities

Walking, both without (62%) and with a dog (27%) were popular activities undertaken during visits to the marine environment in the last 12 months (Figure 30).

Photography and videography were also commonly undertaken activities (31%) as were visiting a heritage site (23%), wildlife watching (22%) and sea swimming (21%) (Figure 30).

Figure 30: Activities undertaken during visit(s) to the marine environment in last 12 months (weighted %)



Q34: What recreational activities did you undertake during your visit(s) to the marine environment in the last 12 months?
Unweighted base: 3,621

22. Outcomes and motivations of visits

Good mental health (84%) and physical health (80%) were the most frequently reported outcomes from spending time in a marine environment. Only 1% were prescribed or advised by their GP to undertake their activity (Figure 31).

Asked about general motivations for visiting marine environments, the most commonly reported reasons were feeling more healthy (34%) and clearing one's head (32%) (Figure 32).

Figure 31: Outcomes associated with most recent visit to marine environment (weighted %)

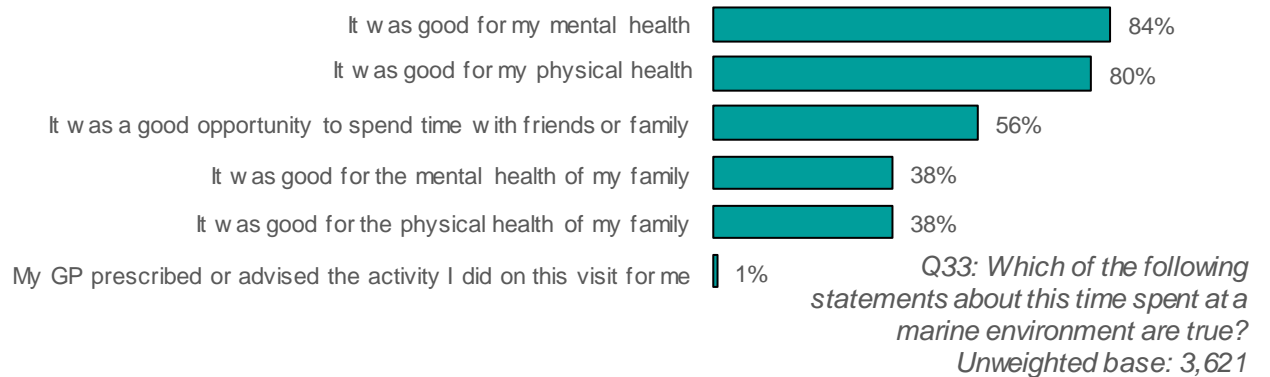
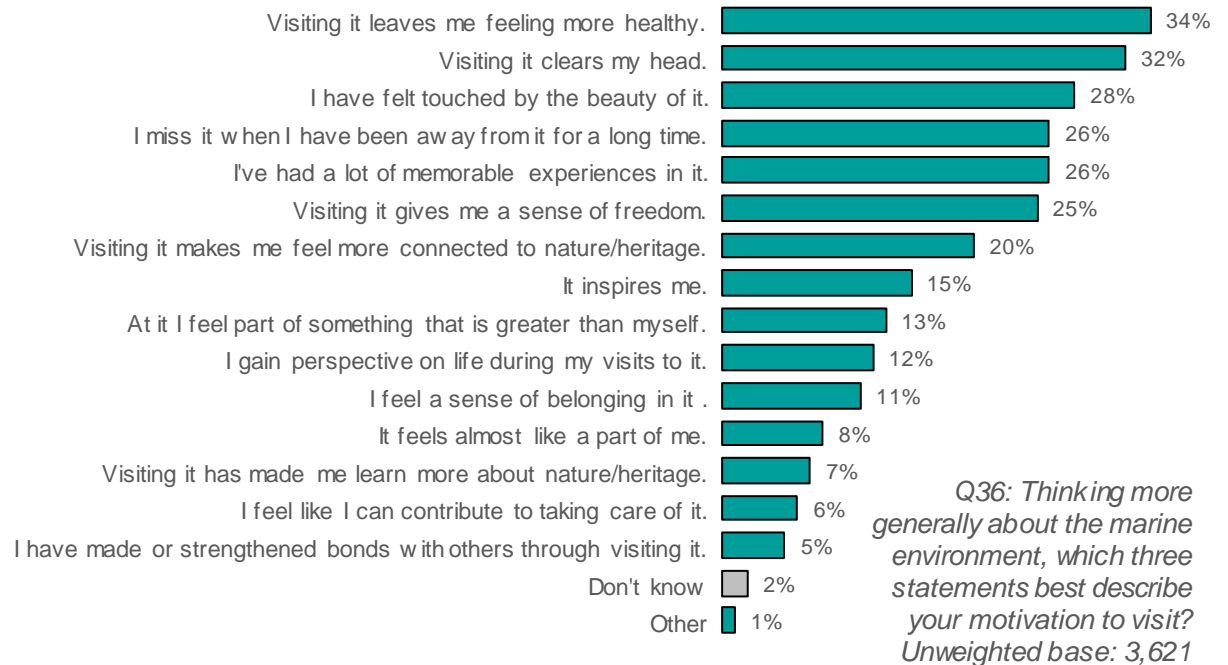


Figure 32: General motivations for visiting the marine environment (weighted %)

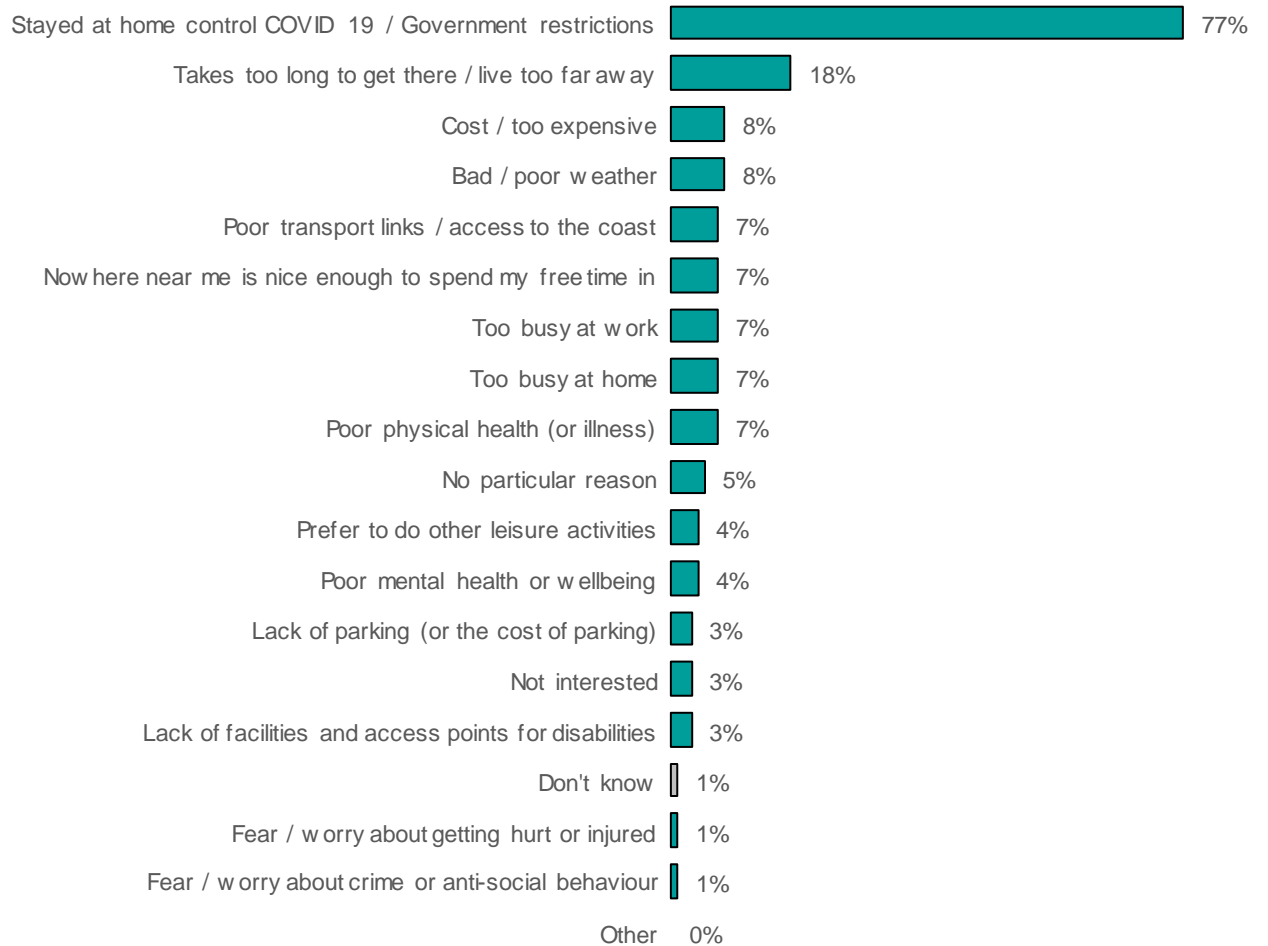


23. Barriers to visits

The main reason for not visiting a marine environment in the last 12 months was staying home due to COVID-19 (77%) (Figure 33).

Distance/time taken to get to a marine environment was the second biggest reason (18%) (Figure 33). Distance may also have interacted with COVID-19 barriers, where ‘Stay Local’ restrictions were also in place.

Figure 33: Reasons for not visiting the marine environment in the last 12 months (weighted %)



Q27: What was the main reason/s for not visiting a marine environment in the last 12 months?
Unweighted base: 4,723