

Coastwise Survey Analysis – Wellbeing Extension

Final Report

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Executive Summary

During January and February 2024 alongside the first phase of project engagement in coastal communities, Coastwise conducted a wellbeing survey to capture baseline levels of wellbeing for coastal residents and indications of how living with coastal erosion affects this. The survey was hybrid through the use of hard copies at Coastwise cafes, supplemented by an online survey for those unable to attend the cafes. This report presents the analysis of this wellbeing survey data to better understand how coastal erosion affects wellbeing and to identify the pathways through which these impacts occur. Although the sample size was small (53 respondents), the data provides a valuable baseline for further research. The survey uses the ONS4 wellbeing measures, assessing life satisfaction, sense of worth, happiness, and anxiety. These measures capture different dimensions of wellbeing—evaluative, eudemonic, and experience—offering a broad perspective on respondents' overall wellbeing.

Findings show limited differences in life satisfaction and sense of worth between those that stated that coastal erosion impacted their wellbeing and those that did not. Life satisfaction scores also ask individuals to step back and reflect on their life overall, meaning that many factors are likely to contribute to this score making it difficult to disentangle the impact of coastal erosion on life satisfaction specifically. Similarly, sense of worth, which reflects meaning and purpose, may be more influenced by internal factors than external events like coastal erosion. Happiness, a positive experiential measure, only shows minimal variation between groups.

However, anxiety—a negative experience measure—displays a notable difference. Respondents who reported that coastal erosion did not affect their wellbeing had anxiety levels that corresponded to very low anxiety, while those whose wellbeing has been somewhat impacted by coastal erosion corresponded to medium anxiety levels. While the survey did not explicitly ask whether coastal erosion caused anxiety, open-text responses suggested a connection. High anxiety scores are commonly linked to concerns about property loss, uncertainty about the future, and feelings of abandonment due to a perceived lack of support.

Additionally, respondents highlight positive feedback for Coastwise and its communication efforts. There is some evidence to suggest that Coastwise's transparency and information-sharing may help reduce anxiety by empowering individuals with a clearer understanding of coastal erosion and its implications. Involving communities through co-creation of adaptation could make individuals feel like they are taking back control and may reduce anxieties. As this early stage in the project, it is promising to have early indicators that coastal adaptation support is beneficial to people.

This survey establishes a baseline understanding of the relationship between coastal erosion and wellbeing. Future research should explore these pathways in more depth to better understand the drivers of wellbeing changes and if coastal adaptation supports initiatives, like Coastwise helps alleviate negative impacts on wellbeing. Further engagement should also examine demographic differences and individuals' relationships with the coast to identify who is most affected and why. This will help build a more detailed picture of how coastal erosion influences different communities and their use of coastal spaces.

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Glossary

EFQ	Everyday Feelings Questionnaire
MHC-SF	Mental Health Continuum Short form
ONS	Office of National Statistics
SWLS	Satisfaction with Life Scale
WEMWBS	Warwick-Edinburgh Mental Wellbeing Scale

1 Introduction

Coastwise is an initiative being led by North Norfolk District Council between 2023-2027, funded by Defra and the Environment Agency to help prepare coastal communities where the coast is eroding between Weybourne and Happisburgh in North Norfolk. Between January and February 2024 alongside the first phase of project engagement in coastal communities, a wellbeing survey was deployed and received 53 responses. The survey aimed to establish baseline levels of community wellbeing through the use of the ONS4 wellbeing questions. The survey also focused on the impact of coastal erosion on wellbeing and aimed to further understand this relationship. Coastwise performed a hybrid survey through the use of Coastwise cafes, supplemented by an online survey for those unable to attend the cafes.

This report provides a deep dive analysis of the data and looks at both the qualitative and quantitative content provided in the survey. The survey aims to provide a baseline of subjective wellbeing of respondents and understand the pathways in which coastal erosion impacts wellbeing. In addition to the data analysis, this report also offers recommendations to the 2024 Coastwise wellbeing survey and suggests ways to improve and expand upon this survey.

1.1 Objectives of this analysis

- To provide a critical analysis of responses to establish baseline wellbeing levels and any associations with coastal erosion; and
- To develop survey recommendations to improve and expand on the existing Wellbeing Survey.

1.2 Structure

The structure of the report is as follows:

- Section 2 presents the approach and methodology;
- Section 3 includes the key analysis on the wellbeing part of the survey;
- Section 4 provides the recommendations for the survey; and
- Section 5 sets out the conclusions.

The annexes that accompany this report also include:

- Annex 1: Coding library;
- Annex 2: Open text responses; and
- Annex 3: Coastwise Wellbeing Survey.

2 Approach and methodology

2.1 Data cleaning and preparation

After the study team received the data, data cleaning and preparation was undertaken. This included manipulating the data into a format that the study team could easily analyse. This also involved:

- Refining data types to match Excel's formatting needs; and
- Compiling multiple-choice responses and codes.

2.2 Campaign detection and treatment

2.2.1 Method of detection

Campaigns represent coordinated responses, or groups of multiple people providing identical replies that aim to lobby or bias the overall findings of a survey. It is fundamental to all survey analysis that campaigns are identified and extracted to mitigate these biases, thus strengthening the validity of the results. To do this, the study team undertook a three-step process. This included:

- Examining respondent metadata (including name, email address, telephone number) for high similar entries or domain names;
- Examining replies to open text questions for highly similar entries; and
- Examining replies to closed questions for trends.

To assess campaign influence in open text questions, the study team used the qualitative data analysis software NVivo to test for textual similarity across all open text data. This is statistical analysis uses the Jaccard coefficient to test similarity of words and sentence structure amongst individual responses. Where the analysis produces high coefficients (i.e. >70% similarity in replies between respondent x and y) the study team clustered replies for further review.

To assess potential campaign influence on closed questions, the study team searched for common patterns and trends amongst the groups flagged in the metadata and open text campaign analysis. Where groups of respondents provide highly similar responses.

To note, it is possible that similar replies to closed-ended questions may naturally occur and may not be an indication of campaigns being present. Subsequently, campaigns can only be identified where metadata and/or open-ended text responses also corroborate the identification. This required critical review by the study team.

Minor campaigns or naturally occurring similarities may be present in the dataset or across responses. Natural occurrences however tend to be rare and do not have the ability to skew the overall results of the analysis. The study team used a standard approach to identify substantive campaigns with the ability to skew results as being any cluster constituting >10% of more of the total response sample. Therefore, in the context of this study, any campaign group with more than five responses will constitute an influencing campaign and will be removed from the overall analysis (mitigating any skewing of results).

2.2.2 Results

Overall, the study team did not identify any discernible similarities between survey responses leading us to believe that campaigns were present in the dataset. Analysis of open text replies revealed only two responses with a high degree of similarity, albeit after closer inspection these responses had very little content and more accurately reflect a statistical hallucination of the detection method.

Subsequently the study team is confident that campaigns have not affected the dataset, and all responses were included in the analysis.

2.3 Method of analysis

2.3.1 Quantitative analysis

Due to the limited number of questions in the survey, the study team cross-referenced each closed survey question with all other non-open text questions to identify potential patterns and trends. These questions consisted of the ONS4 wellbeing questions, question 5 (“Does coastal erosion in North Norfolk have an impact on your wellbeing?”) and demographic questions. The team cross-tabulated questions and investigated sub-groups for specific trends. This approach allowed the study team to explore patterns between variables, such as relationships between responses to the wellbeing questions. Due to the small sample size, all 53 responses were included for analysis – it has been noted where an answer was not provided.

The study team applied simple descriptive statistics to explore and visualise responses to the survey. The majority of questions in the survey provided categorical or ordinal data and therefore the best form of analysis and visualisation was through the use of bar charts. The analysis was systematically performed with the use of Microsoft Excel for ease of accessibility.

It was discussed during the kick-off meeting that an additional survey question was included in the online version of the survey that was not included in the paper version. This included “relationship to the coast” as a potential variable to consider. After consideration the study team decided not to use this as a variable to consider. The difference in the questions between the survey meant that not all respondents were asked the same question and therefore there are some potential data gaps which would make the data incomplete. In addition, the vast majority of respondents come from the original dataset where the relationship to the coast question was not asked (41/53, 77%) meaning that if the study team did use this variable the comparison differences would be limited as the majority of the sample size are one type of stakeholder group (café participants) and were not asked the relationship to the coast question.

Personal wellbeing methodology

The ONS4 wellbeing questions were used in the Coastwise wellbeing survey. The four wellbeing questions capture different measures of wellbeing¹:

- Overall, how satisfied are you with your life nowadays? (evaluative)
- Overall, to what extent do you feel the things you do in your life are worthwhile? (eudemonic)
- Overall, how happy did you feel yesterday? (experience)
- Overall, how anxious did you feel yesterday? (experience)

The first two questions ask respondents to consider their wellbeing overall. The life satisfaction question takes an evaluative approach, asking individuals to reflect on their life and assess how it is going overall. The worthwhile measure is the eudemonic question included in the ONS4. Eudemonic wellbeing is associated with living a “good” life. The eudemonic approach centres on functioning and flourishing, and measures things such as people’s sense of meaning and purpose in life, relationships with family and friends, sense of control, and feeling of belonging to something greater than themselves². The last two questions are effect or experience questions, capturing both positive and negative impacts on wellbeing.

In order to undertake the analysis, we have used the thresholds as guided by the ONS. These are listed below in Table 2-1. These thresholds are used to determine what respondents consider to be “high”, “low” and “average” of wellbeing scores.

Table 2-1: Personal wellbeing thresholds				
Thresholds	Life satisfaction	Worthwhile	Happiness	Anxiety
Very low	-	-	-	0 to 1
Low	0 to 4	0 to 4	0 to 4	2 to 3
Medium	5 to 6	5 to 6	5 to 6	4 to 5
High	7 to 8	7 to 8	7 to 8	6 to 10
Very high	9 to 10	9 to 10	9 to 10	-
Source: ONS (2025) Personal wellbeing user guidance. Available at https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/personalwellbeingsurveyuserguide . Accessed February 2025.				

The study team categorised each of the scores provided to the wellbeing questions according to the thresholds. The individual score was also retained so that this provided an indication of the average score for each question.

2.3.2 Qualitative analysis

The survey incorporated a range of open text questions to complement the closed-question format, offering respondents the opportunity to provide additional insights – valuable to capture, in people’s own words, how they feel their wellbeing is affected by coastal erosion. Open text responses were analysed using thematic analysis, a method that systematically identifies patterns and themes within

¹ ONS (2012) Summary of results from testing of experiment Subjective Wellbeing questions. Available at: <http://www.ons.gov.uk/ons/guide-method/user-guidance/wellbeing/about-the-programme/advisory-groups/wellbeing-technical-advisory-group/testing-of-experimental-subjective-wellbeing-questions---3-december-2012.pdf>. Accessed March 2025.

² ONS (2025) Personal wellbeing user guidance. Available at <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/personalwellbeingsurveyuserguide>. Accessed February 2025.

qualitative data. Further details on the coding process are outlined below. This thematic coding was used to enrich the overall analysis, and where relevant, direct quotes and summarised themes are included throughout the report to offer deeper context and clarity.

Coding framework

The wellbeing survey included two open text questions to complement the closed-question format, offering respondents the opportunity to provide additional insights. This included Q9³ which asked respondents to explain how coastal erosion impacts their wellbeing and included Q12⁴ which allowed respondents to share any further information that they wanted the Coastwise team to know.

The study team first investigated all replies to open text questions and established categories of topics being discussed. The study team then compiled all discussed topics into a short list and begin the process of creating a coding library, outlining the key topics and a description of the associated content. This formed a structured framework to process all the responses under the following step. To minimise against researcher bias, once a coding framework was drafted, the results were independently checked by experienced team members and verified with NNDC.

Descriptions for each theme were created and refined to address any overlaps or clarity issues. The study team subsequently applied this coding framework to the survey responses systematically labelling each response according to the identified themes individually. Each response was tagged with as many codes as required to best represent the nature of the content that the respondent provided. This produced a structured approach to understanding what respondents said and enabled the study team to compare topics by other variables or groups of respondents.

The report also presents tables illustrating the frequency of topics discussed by respondents. Whilst it is useful to see the more prominent topics discussed, it is important to note that prominence is not an indicator of importance (topics discussed by single or few respondents may carry significant weight based on the nature of the comment).

The coding library can be found in Annex 1.

³ 9) Please tell us a little bit about how coastal erosion impacts your wellbeing:

⁴ 12) Anything else that you would like to share.

3 Research findings

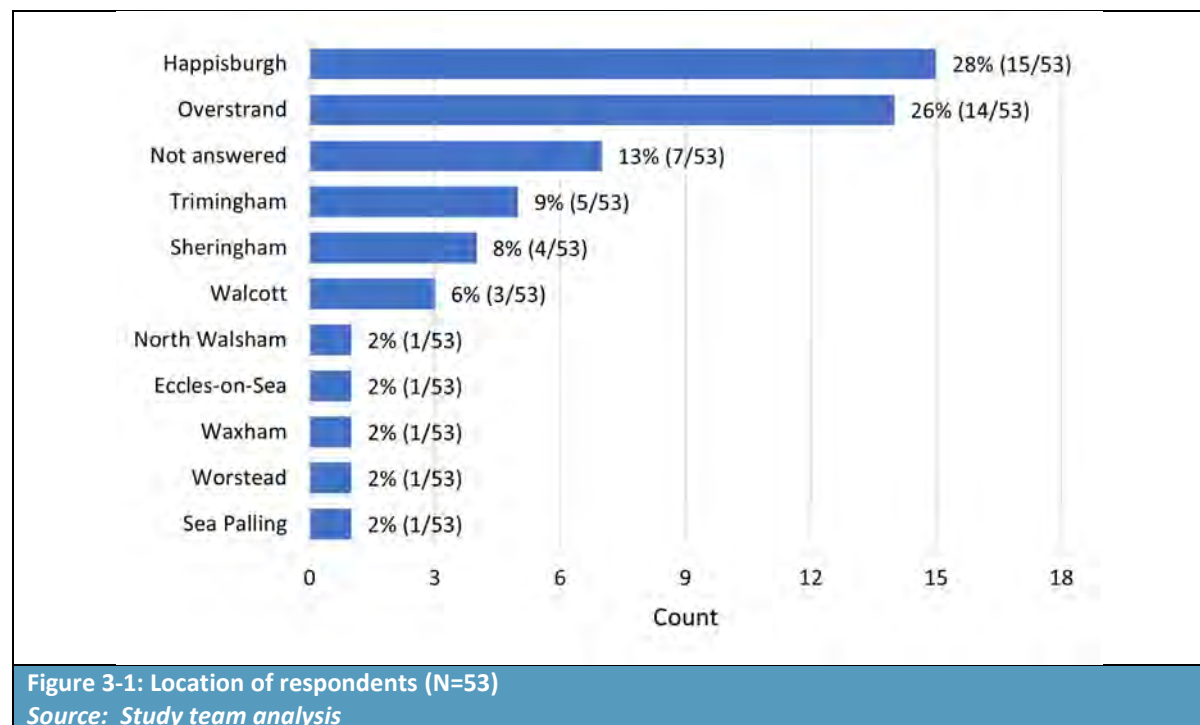
3.1 Respondent profile

This section provides simple descriptive statistics of the demographic information provided in the survey and provides an overview of the respondent profile. This provides an overview of the type of respondents that answered the survey. The Coastwise Cafes, where the survey was primarily distributed, took place in Sheringham, Weybourne, West and East Runton, Overstrand, Trimingham and Happisburgh.

Over half of the respondents (55%, 29/53) reside in just two of the ten given settlements, indicating a potential overrepresentation of these areas in the survey results, however the results are consistent with the number attending in relation each of the cafes held. In terms of age distribution, more than half of the respondents (55%, 29/53) were aged 65 and over years old, and no respondents who provided age information were under 35 years old, suggesting an underrepresentation of younger age groups. Gender representation appears balanced between male and female respondents; no respondents selected the non-binary option. Respondents reported a wide range of lengths of residence in the area. The most common response was 6-10 years (23%, 12/53), followed by 1-5 years (19%, 10/53) and over 40 years (17%, 9/53). It is also noted that not all respondents provided demographic information, with 6% (3/53) not disclosing their age or gender, 11% (6/53) not providing their length of residence, and 13% (7/53) not specifying their location. These gaps in data may limit ability to fully assess over or underrepresentation in demographic groups.

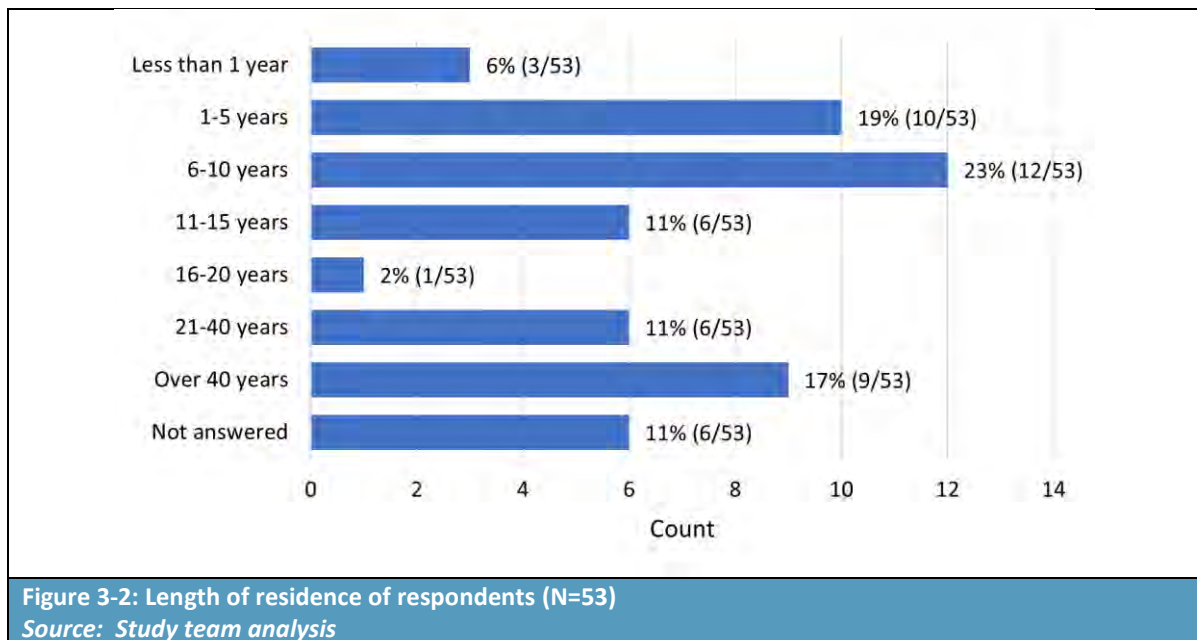
Residence location

Survey respondents were asked which settlement they lived in or closest to. Figure 3-1 presents the count of respondents by residence location. Over half of respondents (55%, 29/53) live in Happisburgh or Overstrand. A small minority of respondents (13%, 7/53) did not provide their location.



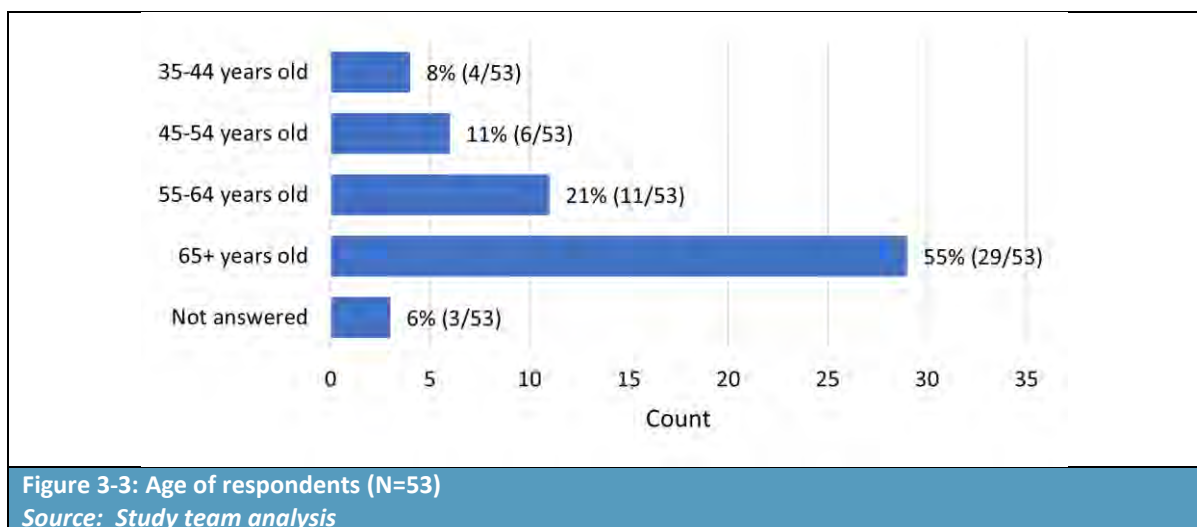
Length of residence

Survey respondents were asked how long they had lived in the area; Figure 3-2 presents the distribution of responses. A wide array of responses was given; almost half (42%, 22/53) had lived in the area for one to ten years, and the third most common answer (17%, 9/53) was over 40 years. A minority (11%, 6/53) of respondents did not provide an answer.



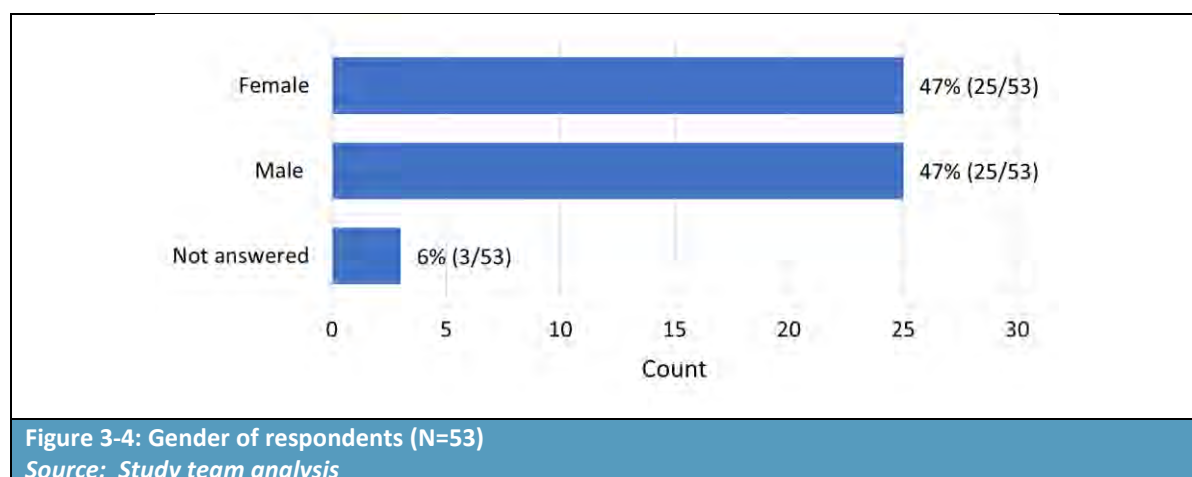
Age

Survey respondents were asked for their age; Figure 3-3 presents the responses. Over half the respondents (55%, 29/53) were over 64 years old, and a small minority (6%, 3/53) did not provide a response. The two most common locations of residence, Happisburgh and Overstrand, were the only locations to receive responses from people aged 35–44 years old. The majority of responses from those locations were from those 65+ years old; 67% (10/15) and 50% (7/14) respectively. No responses were received from those younger than 35 years old.



Gender

Survey respondents were asked to provide their gender; Figure 3-4 presents the responses. There was an equal split between female and male respondents with a small minority (6%, 3/53) not providing a response. All locations of residence, apart from three with only one respondent, received responses from both male and female respondents. The only locations where respondents did not provide their gender were the two most common ones, Happisburgh and Overstrand, and those who did not give a location.



3.2 Wellbeing

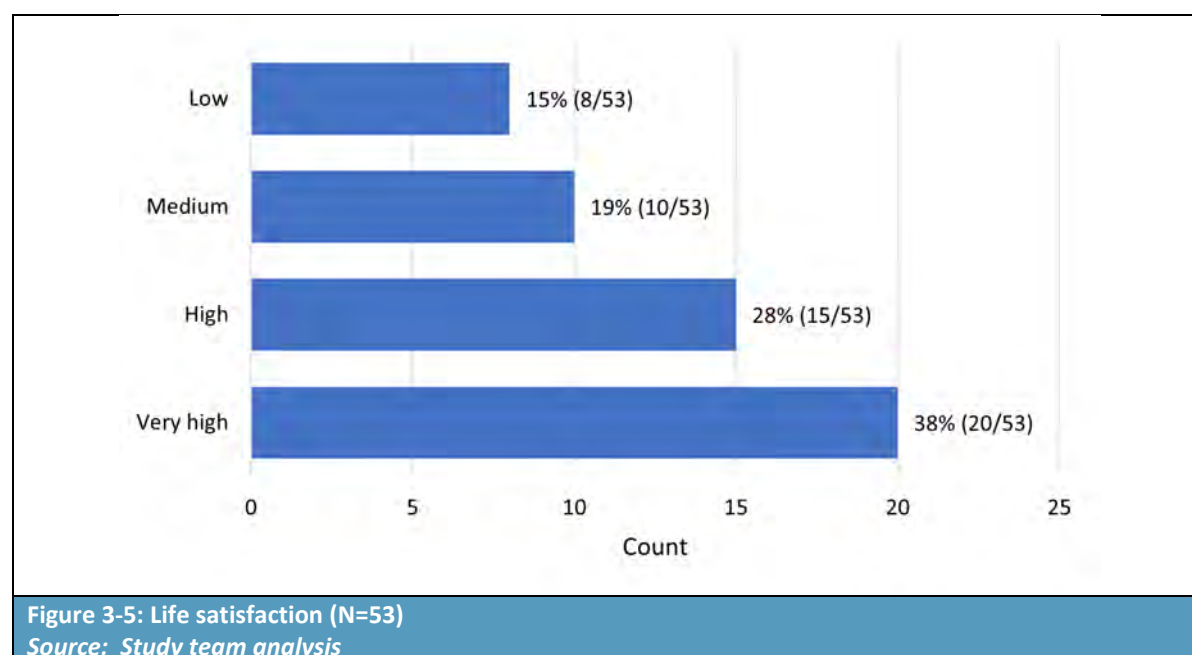
The following sections discuss each of the ONS4 wellbeing questions in turn. These indicators are then combined in section 3.2.5 where the impact of coastal erosion on wellbeing is investigated in more detail.

3.2.1 Life satisfaction

Figure 3-5 presents the count of the thresholds for life satisfaction. Overall, respondents reported high levels of life satisfaction with 28% (15/53) and 38% (20/53) reporting high or very high life satisfaction levels, respectively. The mean score was 7.4, indicating high life satisfaction. Of those that recorded low life satisfaction, 38% (3/8) were from Happisburgh, however no locations were identified that did not match the general distribution of scores. Males were more likely to report “very high” life satisfaction (48%, 12/25) compared to females (28%, 7/25). Of those that reported their age, only those aged 55+ reported low life satisfaction, however it is important to note that these age groups comprised of most of the sample and only 19% of the total sample were aged <55+. With a larger sample size, there may be more variation in results. Overall, there are too few results to draw any clear conclusions. Open text responses also did not reveal anything to suggest that different demographics have different experiences.

The life satisfaction question takes an evaluative approach. Life satisfaction scores ask individuals to step back and reflect on their life overall, meaning that many factors are likely to contribute to this score making it difficult to disentangle the impact of coastal erosion on life satisfaction specifically. Of those that reported that coastal erosion did impact their wellbeing, the distribution of life satisfaction scores was not overtly different from the entire sample. Although, of those who reported low life satisfaction, 88% (7/8) said that coastal erosion did impact their wellbeing, potentially suggesting an influence.

Respondents who reported low life satisfaction scores also were more likely to report low wellbeing in the other measures as well, for example 75% (6/8) reported low worthwhile scores, 63% (5/8) reported low happiness and 38% (3/8) reported high anxiety. In the open text responses, respondents who reported low life satisfaction typically explained that coastal erosion impacted their wellbeing through damage to and loss of houses and the anxiety associated with this. One respondent who reported poor wellbeing scores throughout the ONS4 questions explained that they “view...erosion...and the iconic poster image of Happisburgh as being the destruction of a quintessential element of Norfolk, an important element that attracts tourists and therefore income for North Norfolk”. Whilst this does not specifically mention individual life satisfaction it paints a picture of the damage that coastal erosion can have on wellbeing and the poor media image that it generates.



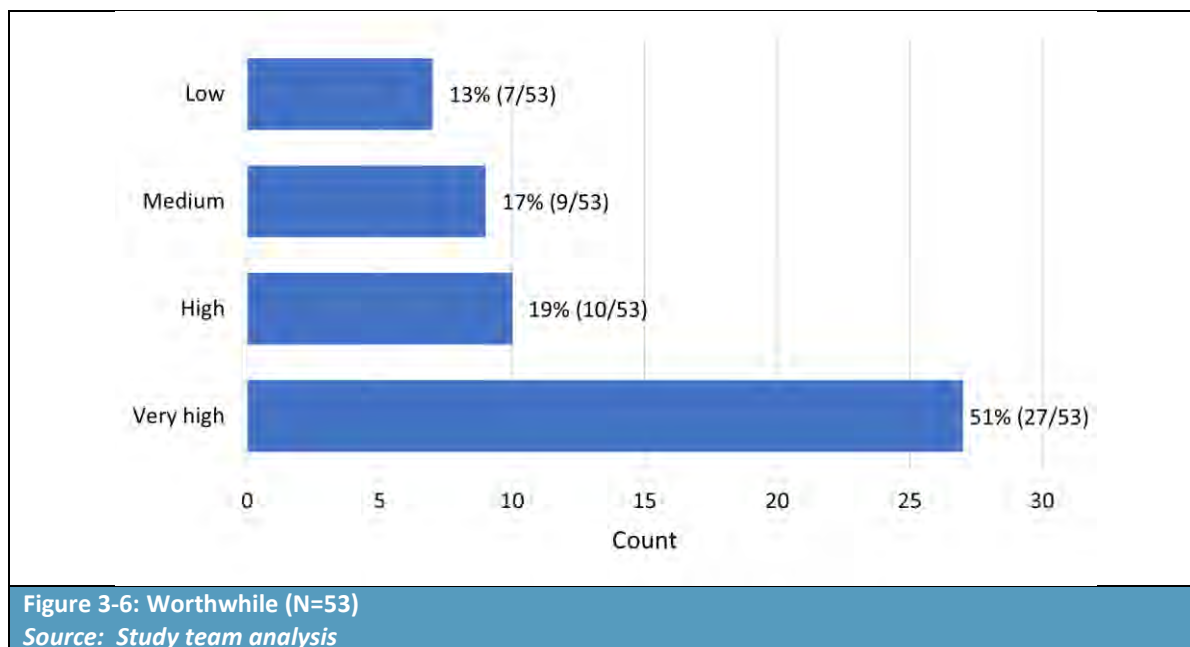
3.2.2 Worthwhile

The worthwhile measure is the eudemonic question included in the ONS4. Eudemonic wellbeing is associated with living a “good” life. The eudemonic approach centres on functioning and flourishing, and measures things such as people’s sense of meaning and purpose in life, relationships with family and friends, sense of control, and feeling of belonging to something greater than themselves⁵. Most respondents (51%, 27/53) reported very high worthwhile scores as shown by Figure 3-6, with a low proportion reporting low scores (13%, 7/53). Locations, gender or length of residence all aligned with the general distribution in Figure 3-6.

As this is a eudemonic measure, the impact of coastal erosion may not be felt through this pathway as this measure of wellbeing encompasses individuals’ meaning and sense of purpose which is likely to come from within. Open text responses, potentially connected to low feeling worthwhile scores, suggested feelings of abandonment and business concerns. One respondent who stated that coastal erosion had an impact on their wellbeing explained that they felt that “local people are excluded from decisions being made on [their] behalf”, another commented that they “worry on how coastal erosion

⁵ ONS (2025) Personal wellbeing user guidance. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/personalwellbeingurveyuserguide>. Accessed February 2025.

will affect our business” but overall there were limited links of respondents expressing low worthwhile scores and connecting this with an explanation in the open text response. This could be linked to a feeling of lacking sense of control in the face of coastal erosion. Of those that reported that coastal erosion had an impact on their wellbeing, 68% (25/53) still reported high or very high feeling worthwhile scores, suggesting that coastal erosion may not be felt through this measure of wellbeing.



3.2.3 Happiness

The happiness measure is an “experience” approach to measuring wellbeing, capturing positive experiences and effects⁶. Most respondents reported “very high” happiness levels (43%, 23/53) with fewer respondents selecting lower happiness scores, decreasing progressively across the thresholds as shown by Figure 3-7. The mean score was 7.5, corresponding to a high average happiness score. No trends or discernible nuances were identified across location, length of residence, age or gender. Among respondents who reported a low happiness score, 67% (4/6) were 65 or older. Of those that reported that coastal erosion did have an impact on their wellbeing, there was a difference of one point between this group and those that reported coastal erosion did not have an impact on their wellbeing. Of those that reported low happiness scores, 83% (5/6) said that coastal erosion impacted their wellbeing. This high percentage of respondents suggests that there may be an influence of coastal erosion on happiness. However, the sample was self-selected, and respondents may have selected a certain score in order to produce a certain result. The sample size is too small to balance out these potential biases.

Coastal erosion was not typically cited as a reason for the scores for happiness however one respondent reported that “erosion depresses me in so far that this [government] policy is [in a] further spiral of decline, that in 20 years’ time North East Norfolk is not going to be a pleasant place to live”. Similar “unhappy” sentiments were typically expressed criticising the local authority, however these respondents’ happiness scores were either “high” or “very high”. Respondents may have been using

⁶ ONS (2025) Personal wellbeing user guidance. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/personalwellbeingurveyuserguide>. Accessed February 2025.

this question to express their unhappiness at the local authority rather than the unhappiness that coastal erosion is causing.

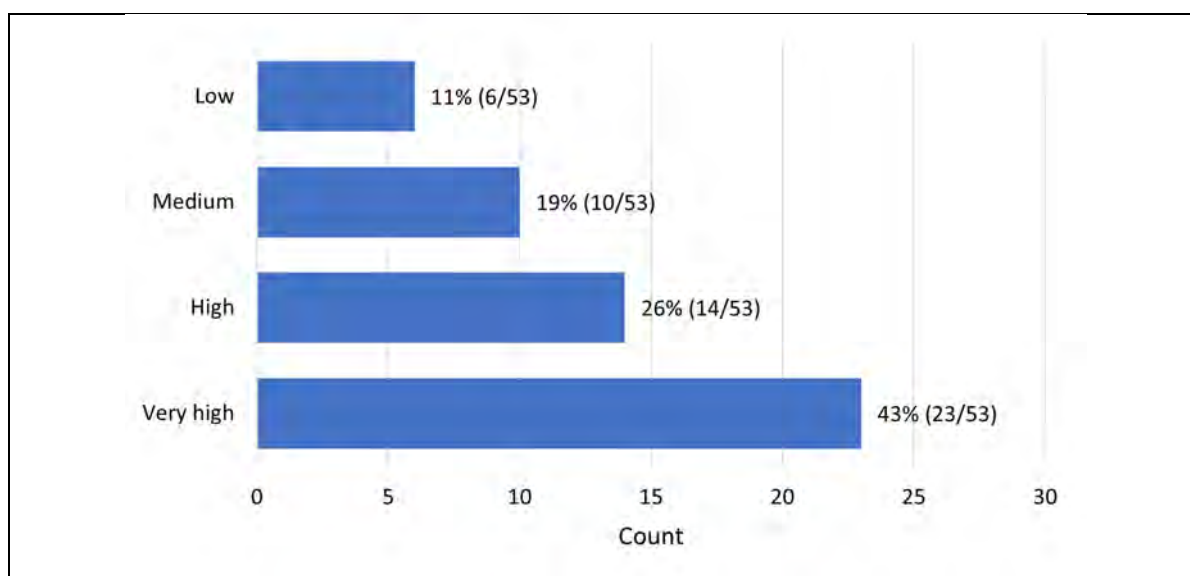


Figure 3-7: Happiness thresholds (N=53)

Source: Study team analysis

3.2.4 Anxiety

Scores for anxiety use the reverse threshold of the other wellbeing measures, with a high score indicating high anxiety. Interestingly, there was much more diversity in responses compared with the other ONS wellbeing measures. The anxiety measure is an “experience” approach to measuring wellbeing, capturing negative experiences and effects⁷.

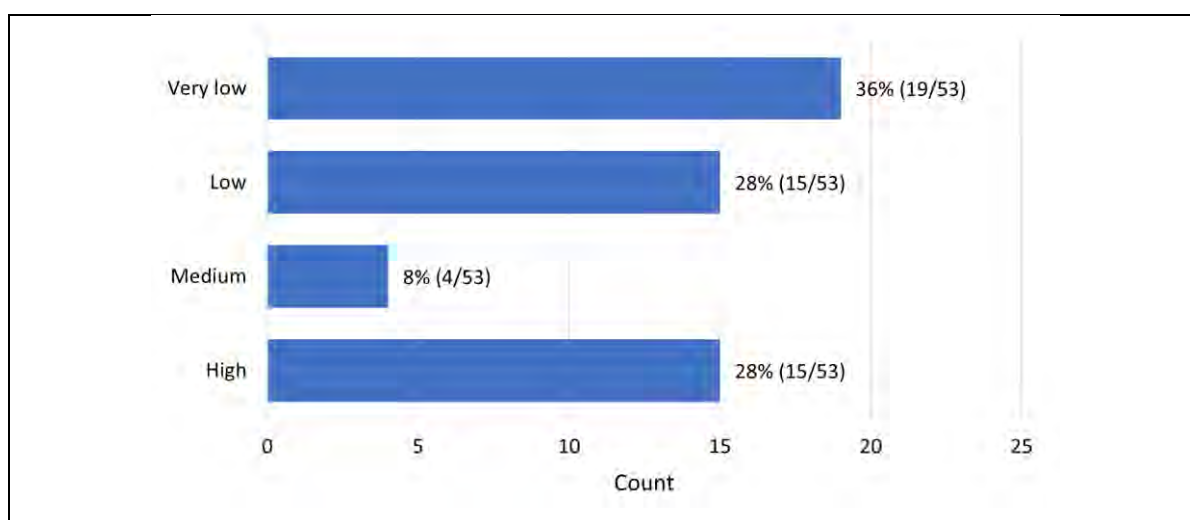


Figure 3-8: Anxiety (N=53)

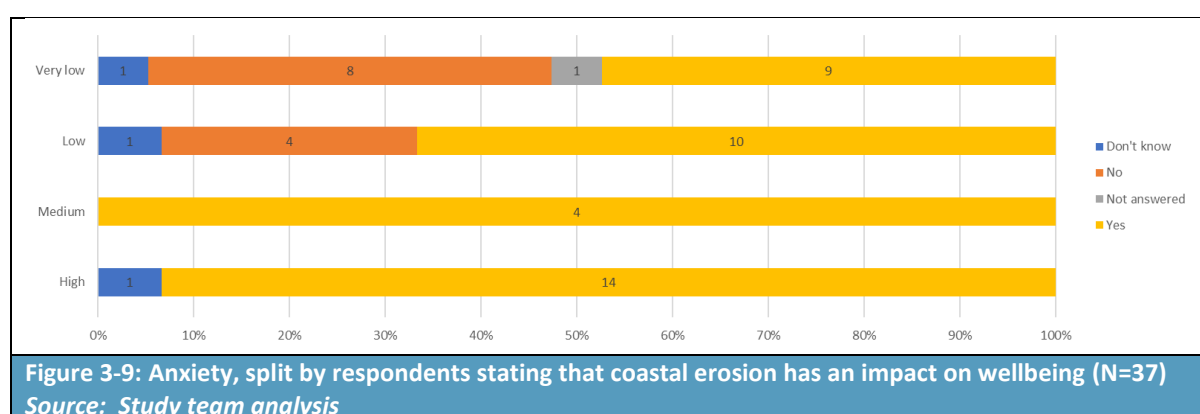
Source: Study team analysis

As shown by Figure 3-8, scores tended to either be distributed at either end of the scale (very low and high) rather than gradually increasing going up the thresholds as was the case in the other indicators.

⁷ ONS (2025) Personal wellbeing user guidance. Available at <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/personalwellbeingurveyuserguide>. Accessed February 2025.

Anxiety was the only category where the highest threshold was not the lowest reported score. The average score was 3.2, corresponding to low to medium anxiety. No trends or discernible nuances were identified across location, age, gender or length of residence, mainly due to the low sample size making it difficult to determine clear relationships.

In the open text responses, the terms “worry” or “anxiety” were recorded in 34% (15/43) of the answered responses, suggesting that this could be a pathway in which coastal erosion affects wellbeing. One respondent explained that they have “daily anxiety about our home and how much longer they can live in it” and reported that they have recurrent “nightmares where the tidal surge washes us away”. When filtering the responses to this question by respondents stating that coastal erosion had an impact on wellbeing, most respondents reported high anxiety scores, as shown by Figure 3-9. This change in distribution suggests that coastal erosion may be a contributing factor to high anxiety levels amongst local communities facing coastal erosion. Of those that reported high anxiety scores, 93% (14/15) stated that coastal erosion had an impact on their wellbeing.



Out of all of the wellbeing measures, anxiety appeared to be the most prevalent in terms of impacting wellbeing. Despite not being asked directly if coastal erosion caused anxiety, it was clear from the open text responses that there is evidence of this. Respondents who reported high anxiety scores explained that coastal erosion impacted their wellbeing through damage to or loss of home (47%, 7/15), uncertainty and worry about the future (33%, 5/15), and feeling abandoned and lack of help (26%, 4/15).

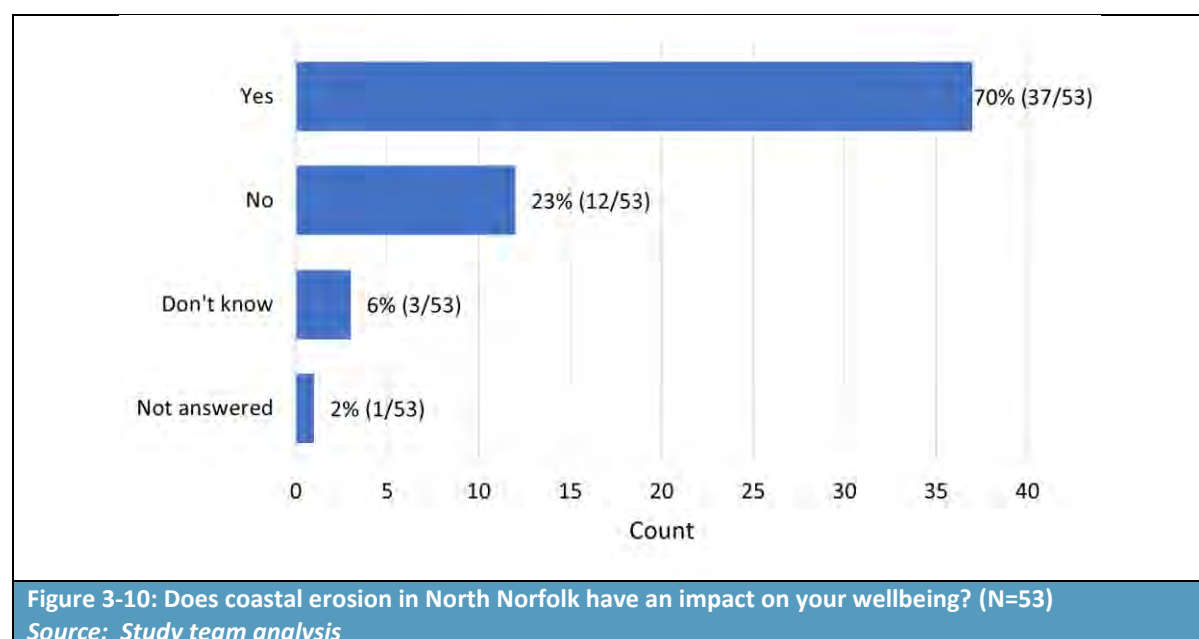
3.2.5 Impact of coastal erosion on wellbeing

As shown in Figure 3-10, the majority of respondents (70%, 37/53) believed that coastal erosion in North Norfolk did have an impact on their wellbeing often reported poorer wellbeing scores as well (lower happiness, sense of worth, happiness and higher anxiety). Table 3-1 presents the difference in scores for each of the wellbeing measures, split by if coastal erosion impacted the respondent’s wellbeing or not. Interestingly, there are minimal differences between life satisfaction and sense of worth, likely because these measures are evaluative and eudemonic in nature. As discussed earlier, these measures prompt respondents to reflect on their overall life rather than specific events, making it difficult to attribute the reasoning behind the score to coastal erosion. However, a notable difference of over one point decrease is observed in happiness scores between respondents where coastal erosion does not impact wellbeing to those where it does, suggesting that coastal erosion has a tangible impact on day-to-day emotional wellbeing.

The most significant disparity appears in anxiety levels⁸, where the average scores of those whose wellbeing is not impacted by coastal erosion corresponds to very low anxiety, while those whose wellbeing has been impacted by coastal erosion corresponds to medium anxiety levels. This contrast could indicate that coastal erosion not only disrupts external living conditions but also contributes to psychological distress. There are differences between the sample sizes of these two groups however, the differences in wellbeing scores are notable with varying levels of significance. Mann-Whitney U tests were used to test the significance of the difference between the two average scores for each of the wellbeing measures, a p-value less than 5% is deemed to be a significant relationship. The significance is presented in Table 3-1. Both the happiness and anxiety scores showed a significant statistical difference. It is important to note that the significant relationships in this dataset are only in this sample and not representative of the whole population.

Table 3-1: Difference in wellbeing scores			
Wellbeing measure	Coastal erosion does not impact wellbeing (n=12)	Coastal erosion does impact wellbeing (n=37)	Difference in averages
Life satisfaction	8	7.2	Not significant at p<0.05
Worthwhile	8	7.5	Not significant at p<0.05
Happiness	8.6	7.1	Significant at p<0.05
Anxiety	0.8	4.2	Significant at p<0.01
Source: Study team analysis			

Females were more likely to report that coastal erosion had an impact on their wellbeing (84%, 21/25) compared with males (56%, 14/25). There were limited locations that stood out as having more people being affected by coastal erosion, a larger sample size may highlight potential relationships.

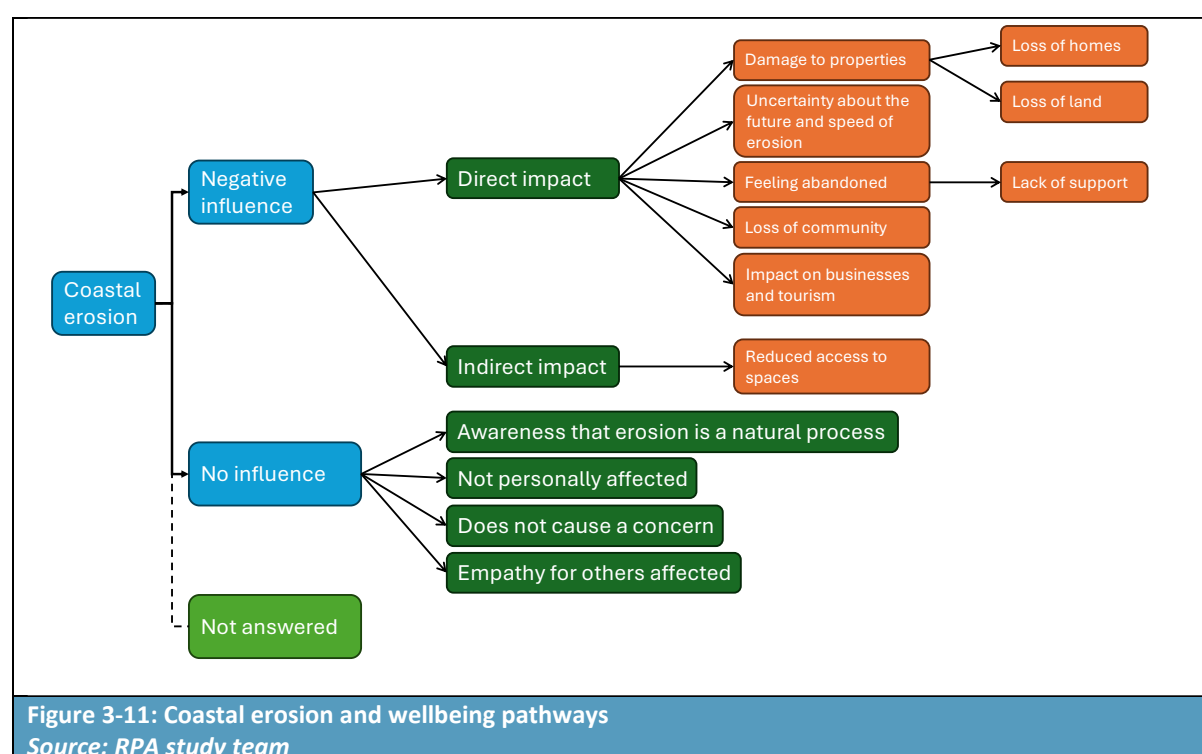


Coastal erosion and wellbeing pathways

Respondents were also asked to further elaborate on their response and explain how coastal erosion impacts their wellbeing. Figure 3-11 presents the pathways in which coastal erosion impacts

⁸ The scale for anxiety is the inverse for the other wellbeing measures. A high score indicates high anxiety (a negative trait), compared with a high happiness score (a positive trait).

wellbeing. There were two ways in which coastal erosion was reported to influence wellbeing. This was either through a negative direct or indirect influence. In addition, respondents also reported that there was no influence on their wellbeing from coastal erosion. Notably no positive impacts from coastal erosion were noted. Respondents appear to view “coastal erosion” as a pejorative term. This suggests that their attitudes toward coastal erosion are predominantly negative, which likely influences their responses and overall perception of the issue. The overall impact on wellbeing remains largely negative due to the associated loss of homes, infrastructure, and community stability. It is also noted that the respondents to this survey were typically respondents that attended Coastwise cafes and thus live in areas that face coastal erosion. It is therefore unlikely that these respondents would report positive effects as these respondents are facing the direct impacts of coastal erosion and are disproportionately affected. Limited differences between demographics were found due to the small sample.



Direct impacts from coastal erosion typically centred around damage to buildings and infrastructure, including homes as well as other infrastructure in the community. Damage to or loss of homes from coastal erosion was the most cited reason of impacting wellbeing with 57% (20/35) respondents citing this. This is understandable as it is very visible impact. For many, a home represents stability, security, and a connection to their community, and the threat of losing it could create anxiety, uncertainty, and a sense of powerlessness. Of those that reported high anxiety, 47% (7/15) cited damage or loss of home as a reason why coastal erosion impacts their wellbeing. The financial burden of repairs, relocation, or loss of property value can further contribute to stress. One respondent explained that they were worried about the future as “insurance doesn’t cover coastal erosion” whilst another commented that there was an “added anxiety of buying property close to a coastal erosion zone”.

Uncertainty and concern about the future was a theme prevalent across all respondents, but particularly those who reported high anxiety (33%, 5/15). Respondents explained that anxiety was caused by seeing locations and homes disappearing and uncertainty about the future and “the changes that it could bring”. Connected to this was also concerns over the speed of erosion (6%, 3/53). Respondents reported that “it is coming [too] fast. Haven’t got much longer” and “the rate of

change is phenomenal". The connection between climate change and coastal erosion was also made (4%, 2/53), who found the visible effects of erosion concerning. The eroding coastline served as a stark, tangible reminder of the broader consequences of climate change, reinforcing worries on "how it will impact future generations". One respondent commented that climate change is "generally upsetting and unsettling. Coastal erosion makes it real, imminent and close". Wider impacts and worries for businesses and tourism were also raised (4%, 2/53). One respondent commented that they "worry on how coastal erosion will affect our business" with another explaining that erosion is destroying a "quintessential element of Norfolk, an important element that attracts tourists and therefore income for North Norfolk".

The loss of homes due to coastal erosion could also lead to the fragmentation or disappearance of entire communities, further impacting wellbeing. **Among the respondents, 8% (4/53) explained that coastal erosion impacted their wellbeing through loss of community.** Respondents reported "anxiety about the future of the village" and that the "sense of community could be lost". This erosion of community ties could lead to feelings of isolation, grief, and a loss of identity, particularly for those with deep generational connections to the area.

Feelings of abandonment and lack of help were also expressed, typically by respondents who reported high anxiety (67%, 4/6). One respondent commented that "the feeling of abandonment by government is rather concerning and unacceptable" with another commenting that they felt that "local people are excluded from decisions being made on [their] behalf". These sentiments highlight the distress caused by feelings from some members of the community of the perceived lack of local input and control over the situation, which is negatively impacting community wellbeing. Interestingly, the respondent expressing concern over the exclusion of local people in decision making, later commented that "Why do we answer all these surveys but no one (in my experience) has ever followed up our answers". This suggests that although there is engagement with the local community, they may not feel listened to or questions that they may have, causing anxiety, do not get answers. Supporting local stakeholders, improving knowledge of the current impacts of coastal erosion could help to alleviate some of these anxieties.

Negative media attention also appeared to further contribute to wellbeing (2%, 1/53), potentially amplifying stress and anxiety among affected individuals. A focus on worst-case scenarios may heighten feelings of fear, uncertainty, and helplessness, making residents feel even more vulnerable. One respondent commented that "You never hear anything positive when it is eroded and repeated in the news", highlighting how negative media attention could take an emotional toll.

Negative indirect impacts centred around coastal erosion causing access issues to spaces and creating barriers from accessing the coast (8%, 4/53). Respondents explained that using the beach for walking or being exposed to coastal areas supported their wellbeing in a positive way. One respondent explained that if they could not access the beach this would impact their wellbeing adding that the beach is a "very important part of my wellbeing, walking on it, swimming, sitting and listening to the waves". Through health and safety issues (4%, 2/53), respondents reported that their wellbeing was impacted in a negative way because they could not use these spaces to support their wellbeing. One respondent explained that it's a "worrying thought that a piece of debris, [loosened] mud, etc. may fall on you whilst out walking or slip from under your feet in some areas", potentially presenting a barrier to using these spaces. Respondents citing these reasons reported overall "good" wellbeing, with no negative thresholds⁹ on any of the ONS4 wellbeing questions. The positive wellbeing scores could be due to the loss of the beach or restricted access not occurring yet as many respondents expressed this impact on wellbeing "if" it occurred. Despite clear negative implications from coastal erosion, 'the coast' as a natural environment has a part to play in supporting wellbeing and mental

⁹ This includes a low score for life satisfaction, sense of worth and happiness and high anxiety.

health of those that use the space. Notably, in the opportunity to share further comments in general one respondent took the opportunity to emphasise the importance of natural spaces: “Being out in nature is so important for people’s emotional and mental wellbeing - anything that causes a loss to habitats and areas where we are free to walk and meet with others is important to know about and deal with where possible”.

The other highlighted pathway was no influence. Under this pathway, it was noted that coastal erosion had no impact on the respondent’s wellbeing. Respondents explained that they are unaffected by coastal erosion (4%, 2/53) and therefore it did not influence their wellbeing, or some respondents explicitly stated that coastal erosion did not cause concern (4%, 2/53). Empathy was expressed for those that are affected (6%, 3/53): “I see nearby locations and homes disappearing into the sea and not much being done to help save our beautiful scenic views and other people’s homes the places [they] should feel safe in. I worry about the children who live in these areas and their mental health”.

Interestingly, one respondent reported that coastal erosion did not cause concern because they saw it as a natural occurrence. When asked how coastal erosion impacts wellbeing they explained “It doesn’t, it’s nature, it’s always happened, and will continue to do so”. Notably this respondent was from North Walsham, not a coastal location and therefore could suggest that those holding such beliefs may be less directly affected by coastal erosion, allowing them to take a more detached view, without the emotional or personal connection to its immediate impacts. Another respondent expressed an acceptance of the issue but conveyed a much bleaker picture of the situation: “it is [unfortunately] a part of our community – a shared intergenerational trauma. It has been likened to a community cancer. An event that is beyond us to tackle alone and only with combined [interinstitutional] approach will enable healing and community resilience to prosper”. Highlighting this connection to community impacts is crucial, as it underscores the need for collective action in addressing the issue, ultimately contributing to improved wellbeing.

Those that did not answer the question to explain how coastal erosion impacted their wellbeing (19%, 10/53) all reported either low or very low anxiety scores, suggesting that this issue is not a high priority to them.

3.3 Further comments

Respondents were also provided with the opportunity to share additional comments. This allowed respondents to discuss or provide comments on any topic and therefore the responses varied. Overall, 23 responses were received, and the study team identified a range of themes of which the counts are presented in Annex 2, however the majority of respondents did not answer this question (57%, 30/53). Limited differences between demographics were found due to the small sample.

One theme that was identified was criticism and request for action. Criticism over consultation activities were expressed (4%, 2/53). One respondent explained that they had engagement with activities but had received limited feedback or seen actions following this commenting “why do we answer all these surveys but no one (in my experience) has ever followed up our answers”. Another respondent criticised the survey commenting “how much has this initiative cost - while offering no hope of saving our village”. Criticism of lack of defences for the area was also expressed (4%, 2/53). Many respondents may feel disengaged from activities that do not result in immediate action, as they continue to focus on the urgent threat of erosion. For them, the only viable solution is to defend or “save” the area, rather than accepting retreat or adaptation strategies – “Why have they not helped Happisburgh in the last years for sea defences?”. This highlights a disconnect between long-term

policy approaches and the immediate concerns of those directly affected, further contributing to frustration and a sense of abandonment.

Other respondents were more open to adaptation strategies and there was a request for transparency over action (4%, 2/53) and request for concrete plans (4%, 2/53). One respondent explained that there was a “need for honesty about what can be done and likely to be done”, reflecting a desire for frankness on the matter and accepting what actions can take place. Another respondent requested “[ensuring] information flows” suggesting that keeping local communities informed about the situation is a benefit. Another commented that there are “big issues that need concrete action plans in place”, suggesting that putting together plans for communities and communicating this with them, based on previous comments in the survey, could help reduce anxieties.

Praise for the Coastwise and communication efforts were cited by respondents (8%, 4/53). Respondents thanked Coastwise for their efforts commenting that the meetings were “useful” and “very interesting”. Respondents requested for “more attendees” and for Coastwise to attend Parish Council meetings. One respondent linked these communication efforts back to the impact on wellbeing, stating that “Giving communities options and listening to their voices helps give autonomy and direction over their future concerning any negative mental health impacts.”

4 Limitations

4.1 Misinterpretation of scores

There is a risk that some respondents might have misinterpreted the scoring scale for the wellbeing questions. The first three questions, life satisfaction, worthwhile and happiness all have a positive scale, the higher the number the better the wellbeing whereas the anxiety measure has a negative scale, with higher numbers indicating lower wellbeing. The ONS acknowledge this, as they found that with cognitive testing some respondents were provided a score of 10 when they meant to record a low anxiety rating¹⁰. The ONS recommend that when including the anxiety question, guidance should be included. This makes the question stem longer but helps ensure that respondents are providing a correct response.

Two respondents in the dataset reported that they had a high anxiety and high life satisfaction, worthwhile and happiness. For example, one respondent reported a score of 10 for all measures, whilst this is possible, it is unusual. If the survey was to be repeated, it is recommended that the question stems are used in full to avoid this potential mistake.

4.2 Causality

Throughout the analysis, we have inferred potential relationships between coastal erosion and wellbeing; however, these conclusions are based on qualitative responses and variations in wellbeing measures rather than direct causal evidence. As a result, while the findings highlight important trends and concerns, they remain exploratory in nature. Without a more controlled study design or longitudinal data, it is difficult to determine the extent to which coastal erosion directly impacts wellbeing, as other external factors may also contribute. Future research using longitudinal tracking, would help to establish clearer causal links and provide a more comprehensive understanding of these relationships. This would involve providing respondents an identifying code and would track the same sample at various points in time. This could then be investigated to see wellbeing changes as the coastline changes.

4.3 Sample size

While this analysis yielded valuable insights, the study team acknowledges the limitation of a small sample size. This constraint made it challenging to explore relationships between different subgroups, as further segmentation would have resulted in even smaller sample sizes, reducing the reliability and generalisability of findings. Additionally, with a limited number of responses, the results may not fully capture the diversity of experiences and perspectives within the wider population. Absence of evidence is not evidence of absence; the small sample size could suggest a lack of relationship but this is unknown. Future research with a larger and more representative sample would help to strengthen the validity of these findings and allow for more in-depth subgroup analysis.

It would also be interesting to investigate a range of groups within the sample. Results from the survey suggest that the impact on wellbeing from coastal erosion differs between those that have been directly affected by it and those who are not. Various samples or groups such as those at imminent threat or erosion, those living in villages are risk but not at imminent threat, and those living away

¹⁰ Government Analysis Function (2020) Personal wellbeing harmonised standard. Available at: <https://analysisfunction.civilservice.gov.uk/policy-store/personal-wellbeing/>. Accessed March 2025.

from the coast. Differences in responses between these groups would be interesting to capture and investigate potential differences in wellbeing scores.

There is also a risk of a non-response bias. There is a possibility that the results do not represent the wider community but only those that want to share their opinion. In addition, the survey was primarily distributed in the Coastwise cafes. Whilst this targeted those that live in affected areas, it is dependent on those that are actively engaged in the issue and want to make their opinion heard. Therefore, there is a risk that the responses may not be representative of each community.

4.4 Extreme low scores

As coastal erosion is a sensitive and emotional topic, there is a potential risk that respondents report “extreme” scores to emphasise their grievance on the issue. Overall, there is limited evidence of this, no scores of 1 were given for life satisfaction and worthwhile measures and only 1 respondent reported the lowest score of 1 for happiness. Three respondents reported the maximum score of 10 for anxiety, however two of these respondents also reported either high or very high responses for the other wellbeing measures which whilst possible, could suggest a misinterpretation of the question.

5 Recommendations on the existing wellbeing survey

5.1 Evidence review of wellbeing standard survey approaches

The existing survey utilised the ONS4 methodology which is regarded as a strong standard in undertaking wellbeing surveys. It is short and quick to answer and provides an overview of current wellbeing levels at that point in time. It has also been cognitively tested in sample groups to refine it and ensure that respondents understand the questions. The study team have also investigated other measures of wellbeing which are presented in Table 5-1.

Table 5-1: Evidence review of wellbeing standard survey approaches			
Survey method	Overview	Strengths	Weaknesses
ONS4	Four questions capturing life satisfaction, worthwhileness, happiness and anxiety.	<ul style="list-style-type: none"> • Short and quick to answer • Provides an overview of current wellbeing levels at that point in time • Can be used to be compared across different groups 	<ul style="list-style-type: none"> • Lacks details on underlying causes of differences in wellbeing scores
Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)	14 questions that provide a picture of respondent's current wellbeing. The WEMWBS represented mental wellbeing as feeling good and functioning well and it includes questions that cover eudemonic and hedonic wellbeing as well as psychological functioning and subjective wellbeing.	<ul style="list-style-type: none"> • Has been shown to be responsive to change and can detect improvement or deterioration • Scores can be split into high, average and low mental wellbeing or can be benchmarked against measures of depression 	<ul style="list-style-type: none"> • Longer to answer, more questions included than other surveys, however there is a shorter 7-item statement version • Items are all worded positively, may not pick up the negative influence of coastal erosion • Focuses on a single summary score, lacks details on underlying causes
WHO 5	Five statements are presented and respondents are asked to report how often they have been feeling over the past two weeks. Higher scores indicate better mental wellbeing.	<ul style="list-style-type: none"> • Short and quick to answer 	<ul style="list-style-type: none"> • Items are all worded positively, may not pick up the negative influence of coastal erosion • Percentage score of below 50 is suggested as a cut-off for poor mental wellbeing. No other thresholds defined
Satisfaction with Life Scale (SWLS)	The SWLS is a brief, five-item tool used to assess overall cognitive evaluations of life satisfaction. It typically takes just about a minute to complete, with respondents providing their	<ul style="list-style-type: none"> • Quick and short to answer 	<ul style="list-style-type: none"> • It is recommended that it is repeated every 4 weeks. Costly and time consuming to be implemented by Coastwise

Table 5-1: Evidence review of wellbeing standard survey approaches			
Survey method	Overview	Strengths	Weaknesses
	answers on a Likert scale. The scores are then totalled, and they correspond to a level of satisfaction with life ranging from extremely satisfied to extremely dissatisfied.		<ul style="list-style-type: none"> Limited differences in life satisfaction between those impacted by coastal erosion, based on the survey results. May not be the best measure of wellbeing to use
Mental Health Continuum Short form (MHC-SF)	This is a short form of the Mental Health Continuum long form scale which measures emotional, psychological and social wellbeing. Measures symptoms of positive mental health.	<ul style="list-style-type: none"> Short and quick to answer, but longer version available if more detailed responses required 	<ul style="list-style-type: none"> Focuses on hedonic and eudemonic wellbeing and does not capture anxiety related statements. Using a scale like this may hide the influence that coastal erosion has on wellbeing
Everyday Feelings Questionnaire (EFQ)	Includes a mix of statements to self-report against. Respondents are asked to report the frequency they have felt the statements provided.	<ul style="list-style-type: none"> Provides an equal balance of positive and negative statements. Has the ability to capture negative statements and psychological distress which coastal erosion may have more impact on 	<ul style="list-style-type: none"> No thresholds provided. May be difficult to compare over time
Source: Study team analysis			

Many wellbeing surveys primarily focus on measuring positive mental health indicators. The measures have typically been designed in the context of capturing the positive impacts of wellbeing or an increase in wellbeing score as a result of an intervention. However, since coastal erosion is predominantly a negative experience, these surveys may struggle to capture its full impact, potentially masking its effects on wellbeing. In this context, interventions are unlikely to enhance wellbeing but are more realistically aimed at mitigating the negative impact of coastal erosion on wellbeing. Overall, the ONS4 wellbeing questions remain the most suitable choice compared to other wellbeing surveys. They are quick to answer and effectively capture both short-term impacts on wellbeing (happiness and anxiety) and longer-term effects (life satisfaction and sense of purpose). This balanced mix of questions provides a more comprehensive picture of wellbeing. Additionally, the measure facilitates easy comparisons across different groups and time periods. The established thresholds, supported by cognitive testing, offer meaningful insights into wellbeing levels, making the results more interpretable than a simple numerical score.

One weakness of all the standard wellbeing survey approaches is that they assess overall wellbeing levels but do not explore the underlying reasons behind those levels. To accurately understand the impact of coastal erosion on wellbeing, tailored questions must be developed and integrated to examine the specific mechanisms at play. It is recommended that future surveys use a combination of wellbeing questions and follow up questions to understand the reasons behind the scores provided.

5.2 Recommendations to improve and expand on the existing Coastwise Wellbeing Survey

After reviewing the survey results, the study team has developed recommendations on ways to improve and expand on the Coastwise Wellbeing Survey, including potential topic areas to investigate further. These are discussed below.

5.2.1 Users of the coast

Demographics

It is important to capture who is saying what in relation to wellbeing to understand more how the impact of coastal erosion affects different groups. Traditional demographic questions such as location, length of residence, ethnicity, gender and age should continue to be asked to build a picture of respondents and also to compare this to area demographics to see if this is an accurate picture of the demography in that area.

A crucial addition to future wellbeing surveys would be a question assessing whether and how respondents have been affected by coastal erosion. This could help distinguish between those directly impacted—such as individuals whose homes have been demolished or are at risk of being lost to the sea—and those experiencing more indirect effects, such as reduced beach access. Understanding these differences is essential, as wellbeing outcomes may vary significantly. For instance, individuals facing home loss may report heightened anxiety, while those unable to visit the beach due to erosion may experience lower happiness levels. Incorporating such a question would provide deeper insights into the nuanced effects of coastal erosion on wellbeing. It would also be a good variable to create a treatment versus control group to be able to compare the impact of coastal erosion on wellbeing scores.

An important demographic to consider in future surveys is socioeconomic status, as it could significantly influence the impact of coastal erosion on wellbeing. For instance, affluent individuals who own a second home on the coast may experience the loss of their property differently than those facing the displacement of their primary residence. While some may feel a loss of emotional attachment to the area, others may endure the financial and psychological stress of losing their primary residence. Capturing this data could help identify those most vulnerable to coastal erosion and provide insights into its varied social impacts. Socioeconomic status can be assessed through indicators such as highest educational attainment, income, or employment status. However, as some of these measures may be considered sensitive, careful consideration is needed when designing survey questions to ensure they are both effective and appropriate.

Relationship to the coast

One factor that could add to the overall picture of coastal erosion on wellbeing is understanding the impact of coastal erosion on wellbeing from the perspective of different people's relationship to the coast. Figure 5-1 presents the potential pathways coastal erosion could impact wellbeing, split by relationship to the coast. These themes emerged from the open-text responses in the survey, but further research could focus on specific user groups to gain deeper insights into how coastal erosion influences their wellbeing and to refine these pathways further. The effects of coastal erosion vary depending on an individual's connection to the coast. Those who live along the shoreline and face its challenges daily will experience its impact differently than those who visit the beach for recreational activities such as walking. Despite these varying perspectives, the survey findings indicate that coastal erosion negatively affects wellbeing, though the specific ways in which this occurs differ.

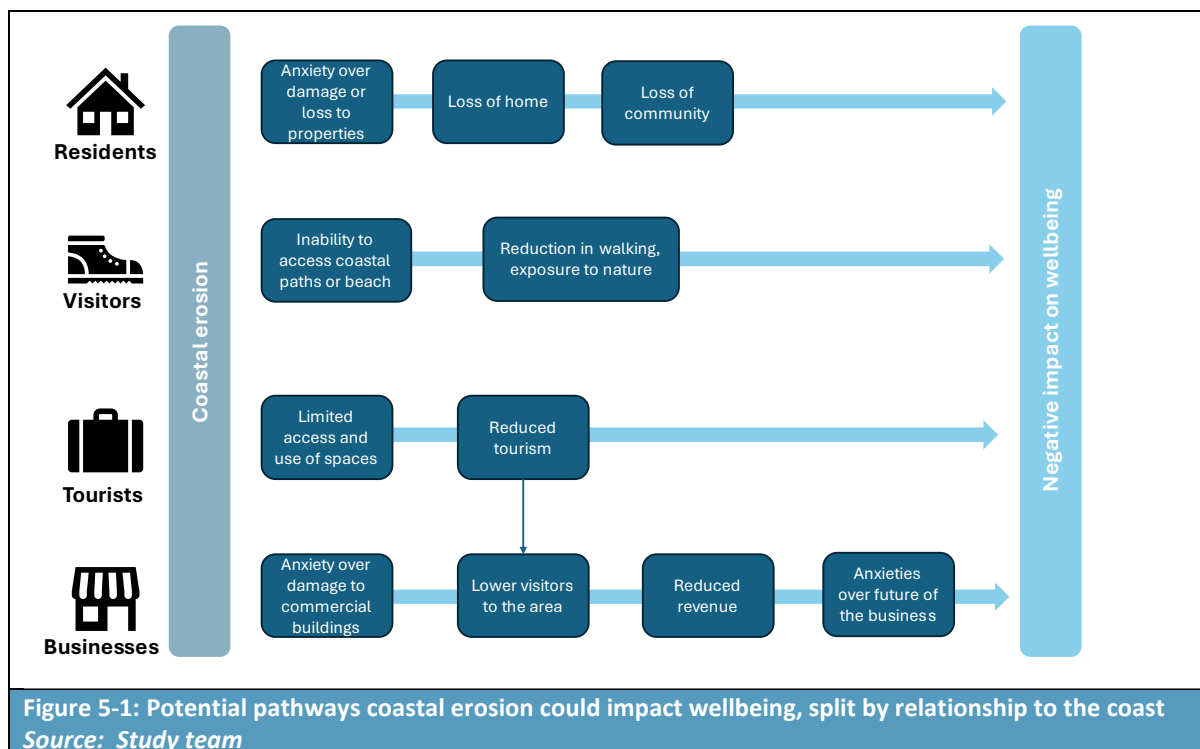


Table 5-2 presents examples of questions for different stakeholder groups. A future survey could use logic questions to only show relevant questions to certain user groups. These questions could be further developed to identify further details around the pathways to coastal erosion impact. It may also be interesting to note if they are a resident of a coastal community, to map their location (and therefore estimated risk of coastal erosion) to determine how close they are to the edge. It would be interesting to investigate if there are differences in wellbeing across different erosion risk zones. It was explained to the study team that there can be an “underlying drain of resilience” throughout the community, felt not only by those living right on the edge but also those further inland as the worry of coastal erosion weighs heavily on people’s minds and the issue continues to affect the area. It is recommended that the pathways diagrams are used to design future surveys to provide a clearer picture of how coastal erosion impacts wellbeing for different groups. It is important to note that this list is not exhaustive and provides an idea of questions that could be asked.

Table 5-2: Examples of questions for different stakeholder groups		
Relationship to the coast	Example questions	Why do we need this information?
Resident	<ul style="list-style-type: none"> How concerned are you about the long-term effects of coastal erosion on your home and community? Has coastal erosion affected your sense of safety and security in your home? If so, how? Have you had to consider relocating due to coastal erosion? Has coastal erosion affected your sense of belonging in the community? If so, how? 	Provides more information on the pathways and themes that were identified in this survey. This can be used to support the pathways diagram further and build a better picture of how coastal erosion impacts wellbeing.
Beach user	<ul style="list-style-type: none"> Do changes in the coastal landscape affect your enjoyment and relaxation when visiting the beach? Do you feel unable to access some areas of the coast due to coastal erosion? 	Identify if there are concerns or worries when users visit the coast. Could begin to build a picture of how the coast could support wellbeing in a positive way by providing a space to

Table 5-2: Examples of questions for different stakeholder groups		
Relationship to the coast	Example questions	Why do we need this information?
	<ul style="list-style-type: none"> Do you have health and safety concerns when visiting areas affected by coastal erosion? Do you find that access to natural environments such as the coast benefits your wellbeing more compared to other areas? 	connect with and use the natural environment.
Tourists	<ul style="list-style-type: none"> Does coastal erosion factor into your decision to visit specific coastal areas or not? Has coastal erosion prevented you from visiting specific areas or not? 	Highlights if tourists or visitors are avoiding the area because of coastal erosion. Provides evidence if there may be a decline in tourism, which indirectly impacts the local economy. This could be included in an online survey open to all or embedded in a wider national survey.
Business	<ul style="list-style-type: none"> Has coastal erosion affected your business operations (e.g., loss of customers, damage to infrastructure, reduced tourism)? Have you had to adapt your business due to changes in the coastal environment (e.g., relocating, modifying services)? 	Provides information on how coastal erosion may have impacted business operations.
Source: Study team analysis		

5.2.2 Understanding the drivers of changes to wellbeing

The original survey began to unpack the impact of coastal erosion on wellbeing through one broad question which uncovered various potential drivers of the impact of coastal erosion on wellbeing. More work could be developed to understand these drivers in more detail. It is repeatedly cited in the literature that this is a key evidence gap surrounding the mental health impacts of coastal erosion. This study highlighted that anxiety is a key element of wellbeing that appears to be affected by coastal erosion, and this could be investigated in more detail. Table 5-3 presents potential examples of questions for drivers of the negative influence of coastal erosion on wellbeing. In addition, attribution is a key element to consider. Capturing the current level of wellbeing is one thing, but it is important to capture the extent to which the impact of coastal erosion is reflected in that score.

Table 5-3: Examples of questions for drivers of the negative influence of coastal erosion on wellbeing	
Theme	Example questions
Quantifying the influence	<ul style="list-style-type: none"> How often do you feel anxious about coastal erosion and its impacts? Compared to five years ago, do you feel that coastal erosion has increased your worries about the future? If so, why?
Impacts	<ul style="list-style-type: none"> Have you noticed any changes in your sleep, mood or daily stress level related to concerns about coastal erosion? Do you feel that coastal erosion has weakened your community's sense of identity and connection? Have you experienced any financial losses (e.g., property value decline, business losses, increased insurance) due to coastal erosion? Have you experienced a loss of emotional attachment to the area as a result of coastal erosion? If you own property near the coast, by how much do you estimate its value has decreased due to erosion risks?

Table 5-3: Examples of questions for drivers of the negative influence of coastal erosion on wellbeing	
Theme	Example questions
Attribution	<ul style="list-style-type: none"> On a scale of 1 to 5, how much has coastal erosion negatively impacted your [wellbeing type¹¹]? How would you rate the impact of coastal erosion on the following aspects of your life? <ul style="list-style-type: none"> Mental health and [wellbeing] levels Sense of security about the future Economic/financial situation Connection to nature and place Social life and community relationships Daily routines and recreational activities
Support	<ul style="list-style-type: none"> Have you ever sought support (e.g., therapy, support groups, government programs) to help cope with the stress of coastal erosion? If so, please tell us more. If you have sought support, has that reduced the worry from coastal erosion? What type of support would help your [wellbeing type¹¹] associated with coastal erosion?
Source: Study team analysis	

5.2.3 Benefits of Coastwise

The aim of Coastwise is to demonstrate the benefits of adaptation. As discussed in section 3.3, respondents praised Coastwise for their efforts and expressed gratitude for the work that has been done. Anecdotally, it was also shared with the study team that individuals that participate in Coastwise events express gratitude for the support that they provide and the information that they share. There is potential evidence to suggest that the impact of Coastwise could help reduce anxieties and thus improve wellbeing in communities affected by coastal erosion as they provide transparency and information around coastal erosion which can empower individuals and help them feel more confident in an uncertain situation if they have a more detailed understanding of the situation.

sUstain Coastal¹² is a community wellbeing project being delivered by Norfolk and Waveney MIND funded by Coastwise, dedicated to supporting residents affected by coastal erosion. While the impacts of coastal erosion are largely challenging, especially for those at risk of losing their homes, there are ways to mitigate its negative effects on wellbeing. By fostering support networks and social connections, initiatives like sUstain Coastal can help individuals build resilience and maintain a more positive outlook in the face of these challenges. Through collaboration, this project can further explore and highlight the benefits provided by Coastwise, demonstrating how adaptation efforts can positively impact communities and enhance overall wellbeing. Collaborations with this project could understand in more detail the benefits that Coastwise provide and capture this to demonstrate the benefits of adaptation and the positive impact it can have.

Some ideas for questions that could be asked to capture the benefits of Coastwise are presented in Table 5-4.

¹¹ This can be replaced by life satisfaction, sense of worth, happiness and anxiety as needed.

¹² Mind Norfolk and Waveney (n.d.) Available at: <https://www.norfolkandwaveneymind.org.uk/sustain-project>. Accessed March 2025.

Table 5-4: Examples of questions capturing the benefits of Coastwise

Theme	Example questions
Knowledge	<ul style="list-style-type: none"> • Do you feel more informed about the current erosion risks in your area since engaging with Coastwise? • Has having more information about erosion risks helped you feel more in control of your situation? • Has this knowledge reduced any anxieties you previously had about coastal erosion?
Support	<ul style="list-style-type: none"> • Do you feel you know where to go to get support regarding coastal erosion and its impacts? • Have you found it easier to access advice or resources since engaging with Coastwise? • Do you feel that there are enough support services available to help individuals and communities facing coastal erosion?
Resilience	<ul style="list-style-type: none"> • Do you feel more prepared now to deal with the risk of erosion compared to before engaging with Coastwise? • What actions have you taken (if any) as a result of what you've learned from Coastwise? • Do you feel that Coastwise has helped foster a sense of collective responsibility in your community to address coastal erosion?
Personal Impact	<ul style="list-style-type: none"> • Can you provide a short overview of how Coastwise has helped you personally? • Has Coastwise helped reduce the emotional impact or stress you experience regarding coastal erosion? • Do you feel more hopeful about the future of your coastal community as a result of this initiative?
<i>Source: Study team analysis</i>	

6 Conclusion

The Coastwise wellbeing survey highlights the significant impact of coastal erosion on people's wellbeing, with responses indicating either negative effects or no influence—no positive impacts were identified. The negative effects manifested both directly and indirectly. Direct impacts were most commonly related to property damage, uncertainty about the future, and the loss of community. Indirect impacts arose from reduced access to spaces that typically support wellbeing.

Some respondents reported no personal impact from coastal erosion, either because they were not directly affected or because it did not cause them concern. Others, while unaffected themselves, expressed empathy for those who were.

Of those that reported that coastal erosion had an impact on their wellbeing often reported poorer wellbeing scores. While life satisfaction, sense of worth, and happiness showed only minor differences between affected and unaffected groups, anxiety levels were notably higher among those impacted—by an average of two levels. Those affected by coastal erosion reported an average score corresponding to medium anxiety whereas those unaffected reported an average score corresponding to very low anxiety. Though the survey did not explicitly ask whether coastal erosion caused anxiety, open-text responses strongly suggested this link. High anxiety scores were often associated with concerns over property loss, uncertainty about the future, and feelings of abandonment due to a lack of support.

This survey provides a valuable baseline understanding of the relationship between coastal erosion and wellbeing. Future research should explore the pathways identified in this study to gain deeper insights into the drivers of wellbeing changes. Collecting demographic data and examining respondents' relationships to the coast will further clarify how coastal erosion affects different groups in varying ways.

Annex 1 Coding framework

A1.1 Q9 coding framework

A1.1.1 Direct impact

Coastal erosion directly negatively affects wellbeing.

Table 6-1: Direct impact		
Code	Theme	Description
D1	Damage or loss of home	Losing or damaging one's home due to erosion negatively affects wellbeing.
D2	Damage to land or other properties	Concerns about damage to land, infrastructure, or property (not home) negatively impacting wellbeing.
D3	Speed of erosion	Worries about how quickly erosion is happening negatively impact wellbeing.
D4	Uncertainty about the future	Uncertainty about the long-term effects of erosion negatively impacts wellbeing.
D5	Feeling abandoned/lack of help	A sense of being abandoned or unsupported by authorities worsens wellbeing.
D6	Coastal erosion & climate change	Concerns about how erosion relates to climate change and its long-term effects.
D7	Negative media attention	Media coverage about erosion and its negative impact on wellbeing.
D8	Health and safety concerns	Worries about physical dangers related to erosion negatively affect wellbeing.
D9	Negative impact on businesses & tourism	Economic concerns about erosion affecting businesses and tourism negatively impacting wellbeing.
D10	Loss of community	Impact on wellbeing through loss of community

A1.1.2 Indirect impact

Coastal erosion indirectly negatively impacting wellbeing.

Table 6-2: Direct impact		
Code	Theme	Description
I2	Reduced access to public spaces	Losing access to places like beaches and paths negatively impacts wellbeing as these spaces usually are spaces to support positive wellbeing.

A1.1.3 Neutral

Coastal erosion has no impact on wellbeing.

Table 6-3: Direct impact		
Code	Theme	Description
N2	Empathy for others affected	Expressing sympathy for those impacted, but without personal wellbeing concerns.
N3	Not personally affected	Respondent is unaffected by erosion, so their wellbeing is not impacted.
N4	Coastal erosion does not cause concern	Respondent explicitly states erosion does not affect their wellbeing.
N5	Erosion is a natural process	Respondent acknowledges erosion but sees it as a natural occurrence, not a concern and doesn't impact wellbeing.

A1.1.4 Other

Table 6-4: Direct impact		
Code	Theme	Description
N1	Not answered	No response or insufficient information to categorise.
I1	Wellbeing declined, but for reasons other than coastal erosion	Wellbeing has worsened, but due to factors unrelated to erosion.
N6	Other	Response does not fit into any of the above categories.

A1.2 Q12 coding framework

A1.2.1 Criticism & Requests for Action

Table 6-5: Direct impact		
Code	Theme	Description
C1	Criticism over consultation activities	Respondent criticises how consultations have been conducted.
C2	Criticism over lack of protection for village	Respondent expresses dissatisfaction with the level of protection provided for the village.
C3	Request for transparency	Respondent asks for clear, open communication about coastal erosion actions.
C4	Request for concrete action plans	Respondent calls for detailed, actionable plans rather than vague promises.

A1.2.2 Suggestions & Communication

Table 6-6: Direct impact		
Code	Theme	Description
S1	Praise for Coastwise and continued communication efforts	Respondent encourages ongoing engagement and updates from authorities.
S2	Suggestions	Respondent provides specific recommendations or ideas regarding coastal erosion management.

A1.2.3 General Comments & Observations

Table 6-7: Direct impact		
Code	Theme	Description
G1	Emphasis on the importance of natural spaces	Respondent highlights the value of preserving natural spaces.
G2	Comments on rates of erosion	Respondent discusses or observes the speed and impact of erosion.

A1.2.4 Miscellaneous

Table 6-8: Direct impact		
Code	Theme	Description
N1	Not answered	No response or insufficient information to categorise.
N2	Other	Response does not fit into any of the above categories.

Annex 2 Open text responses

A2.1 Q9 coding

Table 6-9: Q9 coding	
D1 Damage or loss of home	47%, 20/43
D2 Damage to land or other properties	14%, 6/43
D3 Speed of erosion	7%, 3/43
D4 Uncertainty about the future	21%, 9/43
D5 Feeling abandoned/lack of help	14%, 6/43
D6 Coastal erosion & climate change	5%, 2/43
D7 Negative media attention	2%, 1/43
D8 Health and safety concerns	5%, 2/43
D9 Impact on businesses & tourism	5%, 2/43
D10 Loss of community	9%, 4/43
I1 Wellbeing declined, but for reasons other than coastal erosion	2%, 1/43
I2 Reduced access to public spaces	9%, 4/43
N2 Empathy for others affected	7%, 3/43
N3 Not personally affected	5%, 2/43
N4 Coastal erosion does not cause concern	5%, 2/43
N5 Erosion is a natural process	5%, 2/43
N6 Other	12%, 5/43
Grand Total	100%, 43/43

A2.2 Q12 coding

Table 6-10: Q12 coding	
C1 Criticism over consultation activities	11%, 2/18
C2 Criticism over lack of protection for village	11%, 2/18
C3 Request for transparency	11%, 2/18
C4 Request for concrete action plans	11%, 2/18
G1 Emphasis on the importance of natural spaces	6%, 1/18
G2 Comments on rates of erosion	6%, 1/18
N2 Other	22%, 4/18
S1 Praise for Coastwise and continued communication efforts	22%, 4/18
S2 Suggestions	11%, 2/18
Grand Total	100%, 18/18

Annex 3 Coastwise wellbeing survey

COASTWISE

Wellbeing Survey – Information and Consent

The Coastwise team would like to understand more about how living alongside an eroding coast impacts **people's** wellbeing.

Currently government funding for coastal management does not fully take into account the impact that coastal erosion has on people's health and wellbeing. We are starting a process of trying to collect information to help include this element more effectively in future funding decisions.

Coastwise is a new North Norfolk initiative to transition and prepare coastal communities where the coast is eroding. It is nationally funded through the Coastal Transition Acceleration Programme, funded by DEFRA and the Environment Agency until March, 2027. You can find out more at <https://www.north-norfolk.gov.uk/projects/coastwise/>

Consent and GDPR information

Before you get started with the survey, please ensure that you agree with the following:

- You have read and understood the information provided above.
- You understand that taking part involves completing a paper survey.
- You know that your answers in the survey are anonymous and cannot be attributed to you.
- You have been given the opportunity to ask questions regarding your participation in this survey.
- You understand that your participation is voluntary - you are free to refuse to answer the questions and can withdraw from completing the survey at any time, without having to give a reason.
- You understand that at all times any personal data provided below will be kept confidential, in accordance with data protection guidelines.
- You understand that information you provide will be used for Coastwise project purposes only and that the overall survey data may be published in project reports or other project documents.
- You understand that the research data may be accessed by researchers working in collaboration with Coastwise (it will still be kept confidential in accordance with data protection guidelines).

If you would be willing to participate in follow-up research on this topic, please fill in some contact details here then post this sheet into the survey box. This information will be used purely for future contact on this topic and is separate from your anonymous survey answers:

Name		
Contact email		
Contact telephone number		



Wellbeing Survey – the questions

Please look at the questions below and provide a quick rating on a scale of 1-10 on how you feel by circling the relevant number.

The first four questions may sound a little odd. They are used nationally in all sorts of surveys. We are using them here to make our findings about wellbeing and coastal erosion most effective when having discussions with government on this topic and providing evidence.

1. Overall, how satisfied are you with your life nowadays?

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Not at all Very

2. Overall, to what extent do you feel the things you do in your life are worthwhile?

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Not at all Very

3. Overall, how happy did you feel yesterday?

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Not at all Very

4. Overall, how anxious did you feel yesterday?

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Not at all Very

Questions 5 and 6 are more specific and will help us understand and explain to government how local people feel that coastal erosion is impacting their wellbeing.

5. Does coastal erosion in North Norfolk have an impact on your wellbeing?

Yes	No	Don't know
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6. Please tell us a little bit about how coastal erosion impacts your wellbeing:

Please turn over.

COASTWISE

This information is useful to collect because when the data is analysed, it can tell us more about how different people in our coastal communities are affected and in what ways.

7. Approximately how long have you lived in the area?

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8. Please indicate your age group

Under 18	
18 to 24	
25 to 34	
35 to 44	
45 to 54	
55 to 64	
65+	

9. Please indicate your gender

Male	
Female	
Non-binary	

10. Use this box to add anything else that you would like to share.

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Thank you for completing this survey.

Please post it in the survey box or hand to a Coastwise team member.



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