



House of Commons
Environment, Food and Rural
Affairs Committee

Coastal flooding and erosion, and adaptation to climate change: Interim Report

First Report of Session 2019

*Report, together with formal minutes relating
to the report*

*Ordered by the House of Commons
to be printed 30 October 2019*

The Environment, Food and Rural Affairs Committee

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Committee staff

Ross Anderson (Placement Student), Ian Blair (Committee Assistant), Ian Bradshaw (Committee Clerk), Jonathan Finlay (Committee Specialist), Andy French (Committee Specialist), Beth Goodwin (Senior Committee Assistant), Xameerah Malik (Senior Committee Specialist), Annabel Russell (Committee Assistant), Ben Street (Second Clerk), Jade Ward (POST Fellow), Joe Williams (Media Officer).

Contacts

All correspondence should be addressed to the Clerk of the Environment, Food and Rural Affairs Committee, House of Commons, London SW1A 0AA. The telephone number for general enquiries is 020 7219 7341; the Committee's email address is efracom@parliament.uk.

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Introduction

1. This is an interim Report for our inquiry into coastal flooding, coastal erosion and climate change. We are publishing it in anticipation of the dissolution of Parliament for an early General Election which will prevent us completing the inquiry. This interim report draws attention to key themes in the evidence we have received so far and some provisional conclusions that the Government, Environment Agency and the National Infrastructure Commission (NIC) should respond to and our successor Committee or others may want to build upon.

2. We undertook this inquiry because we were concerned about the impact of rising sea levels and how they will exacerbate the risk to coastal communities, businesses and infrastructure from coastal flooding. During the inquiry, it became increasingly clear that we should also include the risks from coastal erosion. The inquiry looked at: what the risks and consequences of coastal flooding and erosion are; the current picture of coastal defence and adaptation; national and local policy and delivery; the involvement of coastal communities in decision-making; and funding.

3. In preparing for the inquiry we held a private briefing in May 2019 with the Environment Agency, the Committee on Climate Change (CCC) and a researcher from the University of Southampton. We took oral evidence in June and July 2019 from national organisations representing professionals who work to manage coastal change, Flood Re, business, charity and farming interest groups, local authority and community representatives from Looe in Cornwall and Happisburgh in Norfolk, and the Open University. We had intended to hold a further session with the Environment Agency, NIC and Ministers from the Department for Environment, Food and Rural Affairs (DEFRA) and the Ministry of Housing, Communities and Local Government (MHCLG), initially in September and then, when that was postponed owing to the Government's prorogation of Parliament, in November 2019. Members of the Committee also undertook visits to the Thames Barrier and Happisburgh and the Bacton Gas Terminal in North Norfolk. We thank all of those who submitted written or oral evidence to this inquiry and hosted our visits.

1 The risks and challenge of sea-level rise

The scale of the problem

4. The risks and challenge of sea-level rise are becoming increasingly significant. The 2018 UK Climate Projections indicate: “Sea levels are projected to rise under all [greenhouse gas] emission scenarios”.¹ According to the Environment Agency’s 2018 “Climate change impacts and adaptation” report, extreme high sea levels with a 1 per cent per year chance of occurring on the coastline of the English Channel in 1990, are projected to increase to a 10 per cent per year chance by 2100, but the frequency could increase to every twenty days on average in some scenarios.² It concluded that “continuing to maintain all the current coastal flood defences over the next 100 years is unsustainable, as the numbers of defences highly vulnerable to failure will increase by around 20 [per cent] under 0.5 metres local sea level rise”.³ According to the Environment Agency, “this means that some currently defended land may not be defended in the future”.⁴ Around 5,000 properties could be affected over the next 20 years without interventions to defend them.⁵

5. For people living in coastal areas, coastal flooding can represent a serious risk to life, homes and wellbeing. Coastal flood risk was second only to pandemic flu in the Government’s 2017 National Risk Register Of Civil Emergencies, in part because of the high density of population and economic activity in coastal areas and the potential speed and extent of coastal flood events.⁶ In total in England, 1.8 million homes are at risk of coastal flooding and erosion.⁷

6. The CCC estimated that the annual direct economic damages from coastal flooding and erosion exceeds £260 million.⁸ Between £120 to £150 billion worth of assets are estimated to be at risk from coastal flooding, including roads, railway stations, ports, schools, care homes, power stations and landfill sites.⁹ This includes critical national infrastructure such as the 28 per cent of UK oil refining capacity located in the Humber flood plain, or the Bacton Gas Terminal in Norfolk that handles 30 per cent of the UK’s gas supply.¹⁰

7. Farmland, important natural habitats and sites of historical and cultural value are also threatened, and flooding can also have wider environmental consequences. For example, 1,300 historic coastal landfill sites are at risk, which, if breached, could be a risk to bathing waters, wildlife and coastal habitats.¹¹ The Environment Agency expected that

1 DEFRA (FCC0013) para 5

2 Environment Agency, [Climate change impacts and adaptation report](#), (November 2018), p 8

3 Environment Agency, [Climate change impacts and adaptation report](#), (November 2018), p 15

4 Environment Agency, [Climate change impacts and adaptation report](#), (November 2018), p 15

5 Environment Agency, [Climate change impacts and adaptation report](#), (November 2018), p 8

6 The Chartered Institution of Water and Environmental Management (FCC0012) para 7

7 Environment Agency (FCC0007) para 2.1

8 Committee on Climate Change, [Managing the coast in a changing climate](#), (October 2018), p 10

9 Committee on Climate Change, [Managing the coast in a changing climate](#), (October 2018), p 49

10 North East Lindsey IDB (FCC0004) para 3.9; the Committee learnt about the level of gas supply provided by Bacton Gas Terminal during its visit to North Norfolk.

11 Environment Agency (FCC0007) para 2.5

“over 3,000 hectares of internationally protected inter-tidal habitat” would be lost due to “coastal squeeze” between now and 2100, as sea defences prevent coastal habitats from migrating inland.¹²

Managing the risk - Shoreline Management Plans

8. DEFRA is responsible for policy on flooding and coastal erosion, with most of its delivery functions, including major capital projects, delegated to the Environment Agency. The strategy for managing individual sections of the coastline are set out in twenty Shoreline Management Plans (SMPs) which cover the whole of England’s coast.¹³ These were developed by seven Coastal Groups (consortia of local councils and the Environment Agency) and last updated between 2006 and 2012.¹⁴ SMPs are based on DEFRA guidance, ratified by local authorities and provide a policy framework to manage the risk of coastal change, over 20, 50 and 100-year time periods.¹⁵ Stretches of coast are divided into “management units” and for each of these, one of four different management policies are agreed as follows:

- no active intervention–no current plans to build any defences;
- hold the existing defence line–maintaining current defences;
- managed realignment – allowing the shoreline to move to an agreed position; and
- advance the line – new defences planned extending the land area out to sea.¹⁶

12 Environment Agency ([FCC0007](#)) para 2.6

13 DEFRA ([FCC0013](#)) para 11

14 Environment Agency ([FCC0041](#)) page 3

15 DEFRA ([FCC0013](#)) para 11

16 HM Government ‘[Check coastal erosion management in your area](#)’, accessed 30 October 2019.

2 Adaptation to sea-level rise and coastal change

9. In her introduction to the Environment Agency’s 2019 Draft National Flood and Coastal Erosion Risk Management Strategy for England, its Chair wrote:

Climate change increases the risks and means we need to build on our progress [strengthening flood defences], but we can’t do so infinitely. It is not realistic to try to manage more increasingly intense flooding and sea level rise with limitlessly high walls and barriers.¹⁷

The strategy called for the adoption of a “different philosophy” to ensure that “we can all live in climate resilient places that are able to manage and adapt to flooding”.¹⁸

10. Adaptation to flooding is not new. According to Rachael Bice from Cornwall Council, “in Boscastle [which was seriously flooded in 2004] prior to 1850, many of the buildings were designed in a way that water would flow through them. After 1850, they started to be built across where the flood water would flow. When there was a big flood, that blocked up water and made the flood much worse.”¹⁹

11. How to achieve such adaptation effectively but also in an equitable way and with the support of affected communities that might see their homes or land at greater risk of flooding or being lost to the sea was a major theme throughout the evidence we received. Malcom Kerby summarised his experience as a resident of Happisburgh, which has lost 35 properties to coastal erosion, of the initial consultations on revisions to the local SMP:

All we have had thus far is the Government machine coming along, doing a shoreline management plan and saying, “Sorry, guys, we are no longer going to protect you although we have done so for 50 years. Bye”. That is not adaptation; that is abandonment.²⁰

A focus on protecting homes

12. According to the Environment Agency, UK Government Flood and Coastal Erosion Risk Management (FCERM) Grant in Aid (GiA), will amount to £2.6 billion between 2015 and 2021 across England to “better protect at least 300,000 homes” from all flood risk and coastal erosion, with £1.2 billion spent on coastal erosion and sea flooding schemes.²¹ Several organisations raised concerns about what they saw as too narrow a focus in Government coastal change policy on protecting residential properties.²² They were concerned that this approach restricted the scope for adaptation, and overlooked many other important considerations such as the needs of business or the environment.

17 Environment Agency, [Draft National Flood and Coastal Erosion Risk Management Strategy for England](#) (May 2019), p 3

18 Environment Agency, [Draft National Flood and Coastal Erosion Risk Management Strategy for England](#) (May 2019), p4

19 [Q180](#)

20 [Q89](#)

21 Environment Agency ([FCC0007](#)) para 5.1

22 For example: [Q62](#) [Julian Whittle]; Essex County Council ([FCC0028](#)) para 4.1; and Cornwall Council ([FCC0021](#)) p 2

13. Coastal Partnership East told us that the focus on achieving the objective of reducing flood risk for 300,000 houses, meant “there is no mechanism available suitable for climate change adaptation”.²³ The National Farmers Union (NFU) said the Government’s approach prioritises “the protection of people, property and protected habitats”, undervaluing “the wider public benefit and national strategic importance of protecting high quality agricultural land”, including associated environmental benefits and those of protecting railways, road, electricity and water supply infrastructure.²⁴ Julian Whittle from the Cumbria Chamber of Commerce told us “not enough cognizance [is] given to the needs of business”, and although DEFRA’s cost-benefit model which coastal authorities use to make GiA-funding decisions allows business to be taken into account, the funding calculator “is purely prioritised on residential”.²⁵ Rachael Bice from Cornwall Council considered that “We need different mechanisms of assessment that account for good engineering but also good ecological and natural processes” and “recognition that infrastructure and livelihoods are as important to the economy as homes, if not sometimes more so”.²⁶

National and local leadership on adaptation

14. The evidence suggested there is a need for clear national leadership from the UK Government and the Environment Agency, and locally from coastal authorities. Some respondents were concerned about the lack of national support for adaptation. For example, East Riding of Yorkshire Council said that although “there is a push from national Government for local authorities to deliver adaptation schemes, there has been no practical guidance as to when or how this should be delivered”.²⁷ Also, no statutory duty exists to provide coastal defences or adaptation, so each local authority decides when to support or withdraw from coastal adaptation measures, which is influenced by local priorities and availability of funding.²⁸

15. Increased awareness about adaptation has led to it being “on the agenda of many sectors”, according to the Local Government Association (LGA) but “a better understanding is needed of resilient communities, as distinct from the separate necessity to improve resilience at property level”.²⁹ The LGA said it needed “significant governmental legislative, regulatory and financial changes to become a widespread robust practicality”.³⁰ However, such action may be being held up by what Coastal Partnership East characterised as “a policy void and lack of RMA [Risk Management Authority] capacity for coastal adaptation”; because while the Environment Agency has “the strategic overview of the coast, no RMA is specifically identified as having either the lead role or resources to deliver adaptation and therefore this locally often falls to local authorities, but without clear policy leads of or the capacity / resources to respond”.³¹

23 Coastal Partnership East ([FCC0010](#)), para 2.4.1

24 National Farmers Union (NFU) ([FCC0019](#)) para 7

25 [Q62](#)

26 [Q185](#)

27 East Riding of Yorkshire Council ([FCC0014](#)) para 6.1

28 East Riding of Yorkshire Council ([FCC0014](#)), para 6.2

29 The Local Government Association Coastal Special Interest Group ([FCC0022](#)) paras 1.5 – 1.6

30 The Local Government Association Coastal Special Interest Group ([FCC0022](#)), para 1.6

31 Coastal Partnership East ([FCC0010](#)) para 2.3.2

A delivery mechanism for adaptation

16. DEFRA funded a Coastal Pathfinder programme between 2009 to 2011 in 15 local authority areas.³² It was, according to Coastal Partnership East, “the only recent and significant trial of innovation in coastal adaptation”.³³ The Partnership described how the £3m North Norfolk District Council received in 2010 enabled a “highly effective ‘rollback’ approach” to be delivered at the village of Happisburgh, which had suffered severe coastal erosion.³⁴ Instead of traditional coastal defences which were considered uneconomic; it used “innovative land use planning policies with some Pathfinder funding to pursue several local projects. This involved purchase and demolishing of vulnerable residential properties and facilitating development of the same number of properties outside of the risk area.”³⁵ It also facilitated the relocation of a holiday caravan site that was central to the village’s continued economic viability, from the edge of the clifftop further inland.³⁶ The Partnership said a Pathfinder-trial in Suffolk also “developed innovative approaches to the development of temporary or movable housing” that could be more easily relocated (or “rolled back”) as the coastline changed, but did not progress as far as intended because of a lack of funding.³⁷ It added that “replicating the approach elsewhere is not possible without funding.”³⁸

Consent to adaptation and effective public engagement

17. A strong theme in the evidence about Happisburgh, reinforced by our visit, was the importance of effective early engagement with the community, and the consequences when that failed. In 2006, the revised local SMP proposed moving to “managed realignment” or “no active intervention” for areas that until then had been defended under a “hold the line” policy.³⁹ This caused much concern amongst local communities “because many important questions went unanswered about how and when such changes might be made, and whether any support would be provided to affected communities and individuals.”⁴⁰ Malcolm Kerby of the local residents’ Coastal Concern Action Group (CCAG) told us about the atmosphere when proposals to end the policy of “holding the line” emerged:

When I came into it, it was already war. The local authority engineer and the coastal manager did not like coming to Happisburgh. They would be stoned to death. It was awful... Because we were pitched into a situation... [where] we were already too late. They were too late, and we were too late.⁴¹

The National Trust explained that at Studland Bay in Dorset it had “taken three years and an awful lot of money to persuade that community just to relocate a café”.⁴²

32 DEFRA, [Coastal Change Pathfinder Review Final Report](#) (January 2012) para 1

33 Coastal Partnership East ([FCC0010](#)) para 2.2.4

34 Coastal Partnership East ([FCC0010](#)) para 2.2.4; DEFRA, [Coastal Change Pathfinder Review Final Report](#) (January 2012) para 3; the Committee learnt about how coastal erosion had affected Happisburgh during its visit to North Norfolk.

35 Coastal Partnership East ([FCC0010](#)) para 2.2.4

36 The Committee learnt about how and why the caravan site at Happisburgh had been relocated during its visit to North Norfolk.

37 Coastal Partnership East ([FCC0010](#)) para 2.2.4; Coastal Partnership ([FCC0036](#)) para 17

38 Coastal Partnership East ([FCC0010](#)) para 2.2.4

39 East Anglia Coastal Group, [Kelling to Lowestoft Ness Shoreline Management Plan](#)

40 East Anglia Coastal Group, Kelling to Lowestoft Ness Shoreline Management Plan, [Appendix B \(i\): Stakeholder Engagement Addendum](#) page B3

41 [Q109](#)

42 [Q54](#)

18. The need to engage with coastal communities was explained by Terry Fuller of the Chartered Institution of Water and Environmental Management (CIWEM):

On a lot of our coastline, we have legacy. People and communities have enjoyed a certain protection policy and hold-the-line policy. To then convince that community that perhaps we need to look at things in a slightly different way takes time and needs to be dealt with sensitively. We are talking about people here, not about properties. We are talking about homes, livelihoods, memories and family, and all those sorts of things, so more sensitivity is required.⁴³

19. Understandably, “people can feel daunted to the point of disengagement and inaction” by large environmental issues such as climate change and sea level rise.⁴⁴ Public engagement therefore needs to be meaningful and proactive. Dr George Revill of the Open University who led a multi-year engagement project in Norfolk told us:

We need to engage people fairly early in the process ... we have to find ways of working with local communities such that the knowledge they have in those local places actually means something and makes a difference in the planning process ... When engagements come late in the day, they tend to create a more antagonistic and oppositional attitude simply because the proposals are more firmed up, so people have to oppose them in order to get themselves heard.⁴⁵

20. Longer-term support to enable local communities depends on funding and resources. For example, Cornwall Council said funding and resources need to be “made available for community acceptance and engagement” before decisions and work are started.⁴⁶ Similarly, the University of Southampton stated that “removing support is a staged process, and can lead to fierce public opposition. When something is taken away, an alternative needs to be provided to ensure wider blight does not occur”.⁴⁷

21. It is also important that resources for community engagement needs are combined with a proactive approach, but this is often difficult because the only available funding for engagement comes attached to an already agreed project. Karen Thomas from Coastal Partnership East explained:

The biggest challenge we have on the back of what happened at Happisburgh is that we are still in a position where we are only really engaging with people in this conversation about coastal change when it is already happening to them ... That automatically puts us into these crisis conflict discussions with people, when actually... we would like to move into the planning discussions with people about what may happen in the future... Engaging with people and building trust needs to happen before this happens to them, and that means either you have to pay for it from a local authority pot, because you resource it up, or you have a project running.⁴⁸

43 [Q31](#)

44 Open University/ AHRC Research Project ([FCC0015](#)) para 14

45 [Q108](#)

46 Cornwall Council ([FCC0021](#)) page 3

47 University of Southampton ([FCC0020](#)) para 24

48 [Q96](#) [Karen Thomas]

22. In contrast Cornwall Council told us:

At the beginning of the shoreline management plan process, there was a decade planned in to give people time to work with communities, to understand what is deliverable. Because there has not been funding to go with that, that engagement process has only been done in a piecemeal way and often in response to emergency events that have happened.⁴⁹

We have a willing partner in the Environment Agency, but its hands are tied with much of its funding, particularly because it is mainly capital funding that it can access, rather than revenue ... that is what is needed to unlock conversations with communities that are early enough and creative enough to create the solutions that make funds available for small communities with only small numbers of residential properties at risk. We do not have the resources to do that. The money the local authority puts into one community, say Looe, cannot go to another.⁵⁰

23. It is clear that in the face of sea-level rise, the national approach to managing coastal flooding and erosion for many areas will need to increasingly move away from “holding the line” towards supporting people and communities to adapt to change and mitigate the harms. This will not be easy. The costs, both economic and social, to some coastal communities and the people living and working there will be substantial and should not be forgotten in the national debate. *In their response, the Government and Environment Agency should explain:*

- *How national policies and strategy on flood and coastal erosion risk management, funding, and cost benefit analysis methodologies, are going to change, including the level of priority placed on protecting residential properties;*
- *How clear national and local leadership will be provided for adaptation;*
- *How to ensure meaningful long-term engagement with the communities affected by coastal change is at the centre of local strategies so that wherever possible local approaches to adaptation have the consent and support of the people affected; and*
- *How national planning guidance will promote wider uptake of “rollback” measures to support adaptation.*

49 [Q141](#)

50 [Q142](#)

3 Funding and sharing the balance of costs

24. According to the Environment Agency there are three main sources of funding for coastal flood and erosion management:

- UK Government spending by Flood Defence Grant in Aid (FGiA): £2.6 billion between 2015 and 2021 across England to “better protect at least 300,000 homes” from all flood risk and coastal erosion, with £1.2 billion spent on coastal erosion and sea flooding schemes.⁵¹
- Local levy: In 2019/20, £60 million of local levy was allocated to Flood and Coastal Erosion Management (FCERM) in England, of which over £7.2 million was spent on coastal erosion and tidal flood risk.⁵²
- Government partnership funding: By June 2019, over £586 million of partnership funding had been spent or secured for the period 2015–2021, of which approximately £50 million was secured directly from private sector sources.⁵³

25. The Environment Agency also said its Long-Term Investment Scenarios suggested a long-term average annual spend of over £1 billion was needed (on maintenance and capital investment) to manage flooding and coastal change for the next 50 years, for all sources of flooding.⁵⁴

26. In 2018 the CCC examined long-term spending on flood and coastal erosion risk in England against the long-term need, concluding that: “whilst the overall investment levels are sound, the specific schemes that secure funding are not prioritised relative to their importance in long-term sustainable plans.”⁵⁵

27. The NIC told us that in recent years management of flood risk had “too often been short term and reactive.”⁵⁶ Government budgets were reduced in 2006/7 and 2007/8 but then increased after floods in 2007, “and cut again in 2011/12 with a large increase following floods in the winter of 2013/14”, and argued that it would “clearly be better to build flood resilience before it is needed.”⁵⁷ The NIC also said the Government’s six-year capital programme for 2015/16 to 2020/21 “provides greater certainty and should result in more efficient planning. However, there is no clear long term objective for the level of flood resilience that the government is seeking to achieve.”⁵⁸

51 Environment Agency ([FCC0007](#)) para 5.1

52 Environment Agency ([FCC0007](#)) para 5.4

53 Environment Agency ([FCC0041](#)) page 2

54 Environment Agency ([FCC0007](#)) para 5.6

55 Committee on Climate Change, [Managing the coast in a changing climate](#), October 2018, page 50

56 National Infrastructure Commission ([FCC0031](#)) para 3a

57 National Infrastructure Commission ([FCC0031](#)) para 3a

58 National Infrastructure Commission ([FCC0031](#)) para 3a

Funding for adaptation

28. DEFRA told us:

Flood Defence Grant in Aid and local levy ... are some of the principal routes used by Risk Management Authorities to fund management of flood and coastal erosion risks. An element of the formula grant allocation that Local Authorities receive from Government is based on their coastal flood and erosion responsibilities ...

Adaptation is also integrated within Government policies and programmes that support flood and coastal erosion risk management.⁵⁹

29. However, others highlighted that there was no clear funding source for adaptation. The Environment Agency stated that: “current government funding policy does not fully facilitate the allocation of FCERM GiA to adaptation or roll back measures like relocating properties further inland.”⁶⁰ East Riding of Yorkshire Council told us DEFRA promoted adaptation requiring the Council locally to provide significant and ongoing financial support.⁶¹ It therefore had to “explore external sources of funding, including EU funding streams... due to the lack of suitable funding options within [sic] our own Government.”⁶² Coastal Partnership East contrasted the lack of funding support for coastal adaptation compared to defences, as:

Currently, inhabited areas that are policy designated by SMPs as ‘managed realignment’ or ‘no active intervention’ have no funding to adapt, with the exception of a small DEFRA funded demolition grant. Whereas ‘hold the line’ frontages can utilise public funding for the provision of traditional defences, subject to business case appraisal.⁶³

30. The need for change is recognised by the Environment Agency, whose evidence said it is proposing changes to the current GiA funding formula to “help reduce the funding gap for coastal roll back schemes and encourage such schemes to come forward”.⁶⁴ It proposes that the formula should: “include homes that are part of coastal adaptation (roll back) schemes; ... B&Bs as ‘homes’ and not just business premise[s]; ... [and] homes that become at risk due to impacts of climate change.”⁶⁵

Delivering Shoreline Management Plans

31. Terry Fuller of the CIWEM told us:

In terms of the ethos and the concept behind shoreline management plans they are intrinsically good. The long-term thinking that those plans have encouraged us to try to adopt over the last decade or so is absolutely the right way to be going. However, in terms of implementation, it has not been

59 DEFRA (FCC0013) para 17–19

60 Environment Agency (FCC0007) para 5.9

61 East Riding of Yorkshire Council (FCC0014) para 4.2

62 East Riding of Yorkshire Council (FCC0014) para 4.2

63 Coastal Partnership (FCC0036) para 4

64 Environment Agency (FCC0041)

65 Environment Agency (FCC0041)

working as it should. Part of that is because they inevitably point towards some challenging and difficult decisions that have to be taken and there is not sufficient impetus or obligation to face up to some of those implications.⁶⁶

32. Cornwall Council said that the Cornwall & Isles of Scilly SMP (which covers the longest stretch of coastline) was not being fully implemented, with “many difficult and unpalatable actions” having been “pushed into the second epoch [after 2025] to allow time to prepare during the first epoch [2005–2025]. In most cases this preparation simply has not happened due to a lack of resource”.⁶⁷ The Council said it had developed SMP-recommendations for the priority area of Mount’s Bay with a £3.7 million short-term scheme underway to “allow time for the longer-term adaptation approach to be developed” with longer term funding of £130 to £140m potentially required.⁶⁸ However, whilst it had: “concentrated [its] resources” in developing a coastal adaptation approach for this priority location; “many others around Cornwall ... will require similar levels of investment. FDGiA will only provide a very small proportion of the required funding and successful schemes will need to be integrated with economic and social regeneration drivers and funding pathways”, but how this will be funded is unclear.⁶⁹ The Council said despite trying to proactively develop and implement coastal erosion and flooding adaptation measures, “we are only addressing the ‘tip of the iceberg’; maybe a few percent of what is required ... with anticipated global warming impacts we are probably moving backwards”.⁷⁰ Rachael Bice from the Council told us that there was an 85 per cent shortfall in funding for its 25-year investment plan.⁷¹

33. It was not clear however that all of the proposals currently in SMPs represented value for money, especially given the change in philosophy towards adaptation and resilience rather than holding the line. In 2018 the CCC estimated that implementing current local SMPs, would cost between £18-£30 billion (depending on the rate of climate change) across their life-times, but that the costs of the plans for between 149 and 185 km of England’s coast outweighed the benefits using current Government cost-benefit analysis methodologies.⁷² Holding the line on a further 1,460km of coastline, as currently planned, would achieve lower benefits to cost ratios than the interventions the Government currently funds.⁷³

34. The Environment Agency’s written evidence said it is spending £1 million over 3-years to ensure SMPs are “up to date and use the best evidence”,⁷⁴ equivalent to £50,000 for each of the 20 SMP areas, though Cornwall Council suggested this could mostly be eaten-up by the Agency’s administration costs, sharing the cost burden of sea-level rise.⁷⁵

35. The evidence we received raised important questions about the current distribution of the cost burden from sea-level rise. The Borough Council of King’s Lynn & West Norfolk told us “feedback from local communities is that coastal erosion and flooding should be funded centrally and not left to local communities to fund”.⁷⁶ Malcolm Kerby of the

66 [Q29](#)

67 Cornwall Council ([FCC0021](#)) page 1

68 Cornwall Council ([FCC0021](#)) page 1 and 2 & [Q154](#)

69 Cornwall Council ([FCC0021](#)) page 2

70 Cornwall Council ([FCC0021](#)) page 2

71 [Qq154–155](#)

72 Committee on Climate Change, “[Managing the coast in a changing climate](#)”, October 2018, page 10 and 11

73 Committee on Climate Change, “[Managing the coast in a changing climate](#)”, October 2018, page 11.

74 Environment Agency ([FCC0007](#)) para 3.2

75 Cornwall Council ([FCC0021](#)) page 2

76 Borough Council of King’s Lynn & West Norfolk ([FCC0001](#)) page 4

CCAG in Happisburgh argued that individuals bore 100 per cent of the cost of losing a home to coastal erosion but “we are not the only people in the country who contribute to climate change” and sea level rise.⁷⁷

36. Others questioned whether the Government’s cost-benefit model provided a sufficiently broad decision-making framework for assessing when coastal management interventions were made. Coastal Partnership East told us:

Adapting to changing coastlines entails costs. But how those costs are shared out raises issues of distributive justice. The emphasis on the cost benefit principle in decision making... is particularly challenging in areas with small or scattered populations. However, the underlying principle of cost-benefit analysis is that a project is only undertaken where the benefits outweigh the costs such that society as a whole is better off. This should include all the benefits and all the costs; not just those that can be easily expressed in monetary terms and identified as criteria.⁷⁸

37. Finally, concerns were raised about the ability of some communities to compete with others with more socio-economic resources for attention and funding. Rachael Bice of Cornwall Council explained:

One of the features of austerity has been an approach that says, “Work with the willing locally”, and working with the willing often means the communities with most social capital, which to some degree often means most wealth. That is good for those communities, and they can advance things, but it means that some other communities are left behind. That is where the local authority should step in, but because they want to advance something, they will work with the willing. There is a real challenge in that.⁷⁹

Insurance

38. The role of insurance in helping to mitigate the impacts of coastal flooding or erosion, and in supporting adaptation, was another that was repeatedly raised in evidence. Flood Re was set up as a joint reinsurance initiative between the UK insurance industry and the UK Government under the Water Act 2014 to help people at risk of flooding access affordable insurance against flood risk.⁸⁰ The scheme is due to run until 2039.⁸¹ Aidan Kerr of Flood Re told us the scheme provided insurance cover to 55,000 homes in areas at risk of coastal flooding.⁸² The British Insurance Brokers’ Association launched a small business flood insurance scheme (as Flood Re did not cover them); but Business in the Community (BITC) said many small businesses remained unaware of their flood risk or were unable to get affordable insurance. They estimated that 300,000 UK businesses were not currently covered.⁸³ It is also not currently possible to insure against coastal erosion as highlighted by Malcolm Kerby of CCAG, and Coastal Partnership East which said it

77 [Q93](#)

78 Coastal Partnership East ([FCC0010](#)) para 2.3.3

79 [Q182](#)

80 Flood Re ([FCC0023](#))

81 Flood Re ([FCC0023](#))

82 [Q10](#)

83 Business in the Community ([FCC0030](#)) page 2

was: “in the process of commissioning a ‘Coast Re’ scoping review to... mitigate coastal property losses, today and as climate adaptation demands”.⁸⁴ Karen Thomas from the Partnership told us the proposal had been sent to DEFRA to consider.⁸⁵

39. In evidence Flood Re told us that it was asking the Government to allow it to introduce a policy of “build back better” when paying claims for flooding rather than just restoring homes to their previous state.⁸⁶ This would allow for insurers to pay for homes to be made more resilient to flooding and to be adapted to reduce the damage future floods would cause, for instance by raising the height of plug sockets.⁸⁷

Private sector contributions

40. Under the Government’s Partnership Funding model, if FDGiA does not cover the whole cost, a local scheme can still proceed if other contributions are generated.⁸⁸ To encourage private sector contributions, the Finance Act 2015 allows companies and unincorporated businesses to claim corporation tax relief on funding contributions to FCERM schemes.⁸⁹

41. However, the evidence suggested it had become increasingly difficult to attract private investment. The Association of Drainage Authorities (ADA) said limited private money had been forthcoming “with the exception of a few standout schemes such as Pfizer’s ~£6 million investment towards the Sandwich Town Tidal Defences Scheme”.⁹⁰ ADA suggested new approaches were needed to secure private investment such as pension funds or a new Green Infrastructure Bank.⁹¹ Terry Fuller of CIWEM told us partnership funding had “enabled a lot of schemes to move ahead that otherwise would not have done”; but now all “the low-hanging fruit has gone and it is becoming harder to make that work”.⁹² He suggested a “radical rethink” was needed on how else to attract private sector contributions, because the current model encouraged “short-term thinking”.⁹³

42. The Environment Agency suggested that ongoing restrictions on public spending, meant questions about “who pays’ for future climate resilience and the balance of contributions between the public and private sector” would continue to be asked.⁹⁴ It suggested the “growth of green finance and increasing awareness about climate resilience in financial markets” could be a future source of private funding.⁹⁵ **We recognise that in recent years the Government has reversed previous cuts to core Flood Defence Grant in Aid, so that it is now seen as broadly sufficient, if not always correctly targeted.**

43. *The Environment Agency and National Infrastructure Commission should explain what levels of long-term funding they consider will be required given projected sea-level rise, and the priorities for that funding.*

84 [Q93 \[Malcolm Kirby\]](#); Coastal Partnership ([FCC0036](#)) page 2

85 [Q124](#)

86 [Qq22–24](#)

87 [Qq22–24](#)

88 DEFRA ([FCC0013](#)) para 20

89 DEFRA ([FCC0013](#)) para 24

90 ADA (Association of Drainage Authorities) ([FCC0027](#)) para 4.5

91 ADA (Association of Drainage Authorities) ([FCC0027](#)) para 4.5

92 [Q47](#)

93 [Q47](#)

94 Environment Agency ([FCC0007](#)) para 5.8

95 Environment Agency ([FCC0007](#)) para 5.8

44. *The Government should explain how the repeated cycle of cuts to funding to below sustainable levels, which are then reversed only after major flood events, will be ended and prevented from re-occurring. It should also explain how it intends to fund adaptation to coastal changes and sea-level rise.*

45. Local communities that may be affected by changes to the management approach to their local coastline should know when and how those decisions will be taken. The evidence suggests, in part owing to a lack of funding, that the current Shoreline Management Plan process can be opaque and the timetables for the decisions unclear. *The Environment Agency should provide a timetable for the revision of individual Shoreline Management Plans, to enable communities and landowners to plan for the future.*

46. *The Government should demonstrate its seriousness about attracting private sector funding and how it will reverse the apparent stalling of private sector contributions under the Partnership Funding model, and how it intends to strengthen the system including the use of tax incentives for private investment.* It is clear that the implementation, affordability, and funding of Shoreline Management Plans in the face of the challenges posed by climate change needs further scrutiny. This includes the availability of funding to support adaptation and other measures that are not traditional “hold the line” sea defences. How the burden of the costs of sea-level rise is spread across the country, and between the public and private sectors also needs further consideration. Insurance, or related products, may play a significant role in that. However, the question of how it would encourage adaptation and resilience rather than just paying for the status quo to be replaced, or even encourage inappropriate development, needs to be further explored.

4 Land use planning policy

47. We received evidence that local authorities are not effectively using their land use planning powers to prevent inappropriate development in areas at risk of flooding or erosion, or to support adaptation measures or planned realignments of the coastline in SMPs.⁹⁶ The National Trust suggested that some local authorities were not designating areas at risk of coastal change over the next 100 years as Coastal Change Management Areas in their local plans, which would restrict development, because it would prevent them meeting their targets for house building.⁹⁷ Although the Environment Agency is a statutory consultee on local plans, and many applications for planning permission, Aiden Kerr from Flood Re suggested that often its advice is not followed, leading to inappropriate development.⁹⁸

48. The Environment Agency should explain what actions it is currently taking to ensure it is effective in its role as a statutory consultee for proposed Coastal Change Management Areas, or if its role needs to be strengthened or other policy changes made, to ensure the system can prevent inappropriate development in areas at risk of coastal flooding or erosion.

49. Ministry of Housing, Communities and Local Government Ministers should respond to concerns that their housebuilding targets may be leading to councils allowing inappropriate development in areas at risk from flooding or erosion; and to what extent the planning system as a whole is currently prioritising managing the risks from coastal flooding and erosion or needs strengthening.

96 National Trust ([FCC0009](#)) & [Qq25-27](#)

97 National Trust ([FCC0009](#))

98 [Q26](#)

Conclusions and recommendations

Adaptation to sea-level rise and coastal change

1. It is clear that in the face of sea-level rise, the national approach to managing coastal flooding and erosion for many areas will need to increasingly move away from “holding the line” towards supporting people and communities to adapt to change and mitigate the harms. This will not be easy. The costs, both economic and social, to some coastal communities and the people living and working there will be substantial and should not be forgotten in the national debate. *In their response, the Government and Environment Agency should explain:*
 - *How national policies and strategy on flood and coastal erosion risk management, funding, and cost benefit analysis methodologies, are going to change, including the level of priority placed on protecting residential properties;*
 - *How clear national and local leadership will be provided for adaptation;*
 - *How to ensure meaningful long-term engagement with the communities affected by coastal change is at the centre of local strategies so that wherever possible local approaches to adaptation have the consent and support of the people affected; and*
 - *How national planning guidance will promote wider uptake of “rollback” measures to support adaptation. (Paragraph 23)*

Funding and sharing the balance of costs

2. We recognise that in recent years the Government has reversed previous cuts to core Flood Defence Grant in Aid, so that it is now seen as broadly sufficient, if not always correctly targeted. (Paragraph 42)
3. *The Environment Agency and National Infrastructure Commission should explain what levels of long-term funding they consider will be required given projected sea-level rise, and the priorities for that funding. (Paragraph 43)*
4. *The Government should explain how the repeated cycle of cuts to funding to below sustainable levels, which are then reversed only after major flood events, will be ended and prevented from re-occurring. It should also explain how it intends to fund adaptation to coastal changes and sea-level rise. (Paragraph 44)*
5. Local communities that may be affected by changes to the management approach to their local coastline should know when and how those decisions will be taken. The evidence suggests, in part owing to a lack of funding, that the current Shoreline Management Plan process can be opaque and the timetables for the decisions unclear. *The Environment Agency should provide a timetable for the revision of individual Shoreline Management Plans, to enable communities and landowners to plan for the future. (Paragraph 45)*
6. *The Government should demonstrate its seriousness about attracting private sector funding and how it will reverse the apparent stalling of private sector contributions*

under the Partnership Funding model, and how it intends to strengthen the system including the use of tax incentives for private investment. It is clear that the implementation, affordability, and funding of Shoreline Management Plans in the face of the challenges posed by climate change needs further scrutiny. This includes the availability of funding to support adaptation and other measures that are not traditional “hold the line” sea defences. How the burden of the costs of sea-level rise is spread across the country, and between the public and private sectors also needs further consideration. Insurance, or related products, may play a significant role in that. However, the question of how it would encourage adaptation and resilience rather than just paying for the status quo to be replaced, or even encourage inappropriate development, needs to be further explored. (Paragraph 46)

Land use planning policy

7. *The Environment Agency should explain what actions it is currently taking to ensure it is effective in its role as a statutory consultee for proposed Coastal Change Management Areas, or if its role needs to be strengthened or other policy changes made, to ensure the system can prevent inappropriate development in areas at risk of coastal flooding or erosion. (Paragraph 48)*
8. *Ministry of Housing, Communities and Local Government Ministers should respond to concerns that their housebuilding targets may be leading to councils allowing inappropriate development in areas at risk from flooding or erosion; and to what extent the planning system as a whole is currently prioritising managing the risks from coastal flooding and erosion or needs strengthening. (Paragraph 49)*

Formal minutes

Wednesday 30 October 2019

Members present:

Neil Parish, in the Chair

Mrs Sheryll Murray Angela Smith

David Simpson Julian Sturdy

Draft Report (*Coastal flooding and erosion, and adapting to climate change: Interim Report*) proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 49 read and agreed to.

Resolved, That the Report be the First Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[The Committee adjourned.]

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Tuesday 4 June 2019

Innes Thomson, Chief Executive, Association of Drainage Authorities (ADA), **Terry Fuller**, Chief Executive, The Chartered Institution of Water and Environmental Management (CIWEM), and **Aiden Kerr**, Director of Operations, Flood Re [Q1–50](#)

Dr Mhari Barnes, National Flood Management and Access Policy Adviser, National Farmers Union (NFU), **Helen Mann**, Consultancy Manager in the South West, the National Trust, and **Julian Whittle**, Business Engagement Manager, Cumbria Chamber of Commerce [Q51–88](#)

Tuesday 23 July 2019

Malcolm Kerby, Coastal Concern Action Group, Happisburgh, **Karen Thomas**, Head of Coastal Management, Coastal Partnership East, **Bill Parker**, former Head of Coastal Management, Suffolk Coastal and Waveney District Councils, and **Dr George Reville**, Department of Geography, Faculty of Arts and Social Sciences, The Open University [Q89–132](#)

Rachael Bice, Head of Environmental Growth and Partnerships, Cornwall Council, and **Councillor Armand Toms**, Cornwall Council and Looe Town Councillor [Q133–189](#)

Published written evidence

The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

FCC numbers are generated by the evidence processing system and so may not be complete.

- 1 ADA (Association of Drainage Authorities) ([FCC0027](#))
- 2 Anglian Water Services ([FCC0003](#))
- 3 Borough Council of King's Lynn & West Norfolk ([FCC0001](#))
- 4 British Antarctic Survey and Centre for Polar Observation and Modelling ([FCC0024](#))
- 5 Broads Authority ([FCC0008](#))
- 6 Business in the Community ([FCC0030](#))
- 7 Climate Vision ([FCC0037](#))
- 8 Coastal Group Network of England and Wales ([FCC0026](#))
- 9 Coastal Partnership ([FCC0036](#))
- 10 Coastal Partnership East ([FCC0010](#))
- 11 Cornwall Council ([FCC0021](#)), ([FCC0038](#))
- 12 Defra ([FCC0013](#))
- 13 Dr Clive Stockton ([FCC0047](#))
- 14 East Looe Town Trust, Cornwall ([FCC0016](#))
- 15 East Riding of Yorkshire Council ([FCC0014](#))
- 16 Environment Agency ([FCC0007](#)), ([FCC0041](#))
- 17 Essex Coast Organisation ([FCC0029](#))
- 18 Essex County Council ([FCC0028](#))
- 19 Flood Re ([FCC0023](#))
- 20 International Sea Level Institute ([FCC0040](#))
- 21 International Thwaites Glacier Collaboration ([FCC0006](#))
- 22 J A Godfrey & Sons Ltd ([FCC0002](#))
- 23 Met Office ([FCC0017](#))
- 24 Mr Andrew Coleman ([FCC0046](#))
- 25 National Farmers Union (NFU) ([FCC0019](#))
- 26 National Infrastructure Commission ([FCC0031](#))
- 27 National Oceanography Centre ([FCC0025](#))
- 28 National Trust ([FCC0009](#))
- 29 North East Lindsey IDB ([FCC0004](#))
- 30 Open University/ AHRC Research Project ([FCC0015](#))
- 31 Process Industries Division Board of the Institution of Mechanical Engineers ([FCC0042](#))
- 32 Professor Roger Moore ([FCC0005](#))
- 33 Royal Society for the Protection of Birds ([FCC0018](#))

- 34 The Chartered Institution of Water and Environmental Management ([FCC0012](#))
- 35 The Local Government Association Coastal Special Interest Group ([FCC0022](#))
- 36 The National Caravan Council (NCC) ([FCC0032](#))
- 37 The National Trust ([FCC0035](#))
- 38 The Open University ([FCC0044](#)), ([FCC0045](#))
- 39 University of Southampton ([FCC0020](#))
- 40 University of Sussex ([FCC0011](#))

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website. The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2019

First Special Report	Pre-legislative scrutiny of the Draft Environment (Principles and Governance) Bill: Government Response to the Committee's Fourteenth Report of Session 2017–19	HC 95
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Session 2017–19

First Report	2 Sisters and Standards in Poultry Processing	HC 490 (HC 861)
Second Report	Pre-Legislative Scrutiny of the draft Animal Welfare (Sentencing and Recognition of Sentience) Bill 2017	HC 709 (HC 984)
Third Report	Brexit: Trade in Food	HC 348 (HC 1021)
Fourth Report	Improving air quality	HC 433 (HC 1149)
Fifth Report	Performance of the Rural Payments Agency	HC 887 (HC 1448)
Sixth Report	The future for food, farming and the environment	HC 870 (HC 1598)
Seventh Report	Fur trade in the UK	HC 823 (HC 1675)
Eighth Report	Regulation of the water industry	HC 1041 (HC 1856)
Ninth Report	Controlling dangerous dogs	HC 1040 (HC 1892)
Tenth Report	Scrutiny of the Agriculture Bill	HC 1591
Eleventh Report	Beyond the Common Fisheries Policy: Scrutiny of the Fisheries Bill	HC 1722
Twelfth Report	Pre-appointment hearing with the Government's preferred candidate for Chair of Natural England	HC 1979
Thirteenth Report	Draft National Policy Statement for Water Resources Infrastructure	HC 1978
Fourteenth Report	Pre-legislative scrutiny of the Draft Environment (Principles and Governance) Bill	HC 1893
Fifteenth Report	Brand Britain: promoting British food and drink	HC 1039 (HC 2645)
Sixteenth Report	Plastic food and drink packaging	HC 2080

First Special Report	Food waste in England: Government Response to the Committee's Eighth Report of Session 2016–17	HC 444
Second Special Report	Forestry in England: Seeing the wood for the trees: Government Response to the Committee's Fifth Report of Session 2016–17	HC 445
Third Special Report	Feeding the nation: labour constraints: Government Response to the Committee's Seventh Report of Session 2016–17	HC 446
Fourth Special Report	Post-legislative scrutiny: Flood and Water Management Act 2010: Government Response to the Committee's Sixth Report of Session 2016–17	HC 447
Fifth Special Report	2 Sisters and Standards in Poultry Processing: Government Response to the Committee's First Report	HC 772
Sixth Special Report	2 Sisters and Standards in Poultry Processing: Food Standards Agency Response to the Committee's First Report	HC 861
Seventh Special Report	Pre-Legislative Scrutiny of the draft Animal Welfare (Sentencing and Recognition of Sentience) Bill 2017: Government Response to the Committee's Second Report	HC 984
Eighth Special Report	Brexit: Trade in Food: Government Response to the Committee's Third Report	HC 1021
Ninth Special Report	2 Sisters and Standards in Poultry Processing: Food Standards Agency Response to the Committee's First Report	HC 1070
Tenth Special Report	Improving air quality: Government Response to the Committee's Fourth Report	HC 1149
Eleventh Special Report	Performance of the Rural Payments Agency: Government Response to the Committee's Fifth Report	HC 1448
Twelfth Special Report	The future for food, farming and the environment: Government Response to the Committee's Sixth Report	HC 1598
Thirteenth Special Report	Fur trade in the UK: Government Response to the Committee's Seventh Report	HC 1675
Fourteenth Special Report	Regulation of the water industry: Government and Ofwat Responses to the Committee's Eighth Report	HC 1856
Fifteenth Special Report	Controlling dangerous dogs: Government Response to the Committee's Ninth Report	HC 1892
Sixteenth Special Report	Pre-appointment hearing with the Government's preferred candidate for Chair of Natural England: Government Response to the Committee's Twelfth Report	HC 2096
Seventeenth Special Report	Brand Britain: Promoting and Marketing British food and drink: Government Response to the Committee's Fifteenth Report	HC 2645