



Department for Environment
Food and Rural Affairs



The English Coast:

A changing coast, funding and the need for adaptation

Rachael Hill
National FCRM Manager
Environment Agency

Overview

- ➔ An introduction to the Environment Agency
- ➔ Coastal flood & erosion risk management in England
- ➔ Funding – mechanisms & opportunities
- ➔ Drivers for change
- ➔ Coastal adaptation – theories & examples
- ➔ Looking to the future

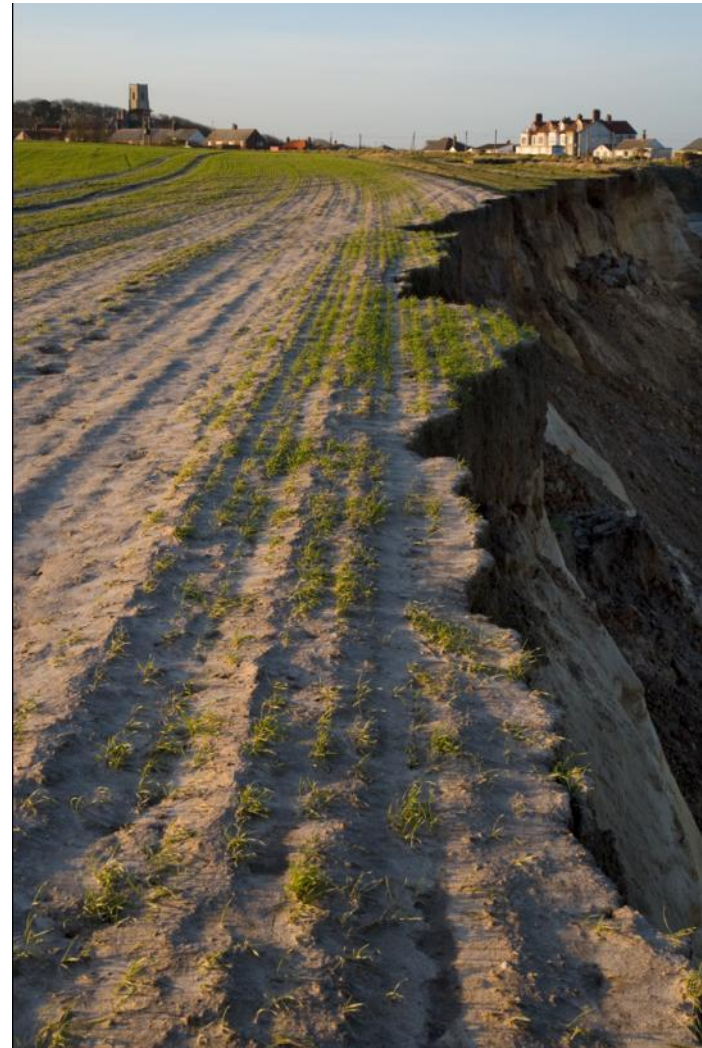
Environment Agency - Who are we?

- ➔ Government Agency in England
- ➔ Regulator and operator of water, waste, carbon, biodiversity, and flooding.
- ➔ Flood and Coastal Risk Management
 - ➔ Mapping and modelling;
 - ➔ Investing in flood and coastal erosion defences;
 - ➔ Warning and informing;
 - ➔ Responding to incidents;
 - ➔ Working with communities, NGOs and local government;
 - ➔ Coastal Strategic Overview



Flood and coastal risk in England – the scale of the problem

- ➔ Approximately 1.3 million people at coastal flood and erosion risk in England & Wales
- ➔ About 1 in 25 properties are at risk from sea flooding
- ➔ About a quarter of the coastline eroding at >10cm/year – but up to almost 2m/yr in some places
- ➔ 740 properties at risk from erosion in next 20 years



Examples of coastal flooding and erosion

Coastal Flooding



Coastal Erosion



National Strategic Coastal Overview

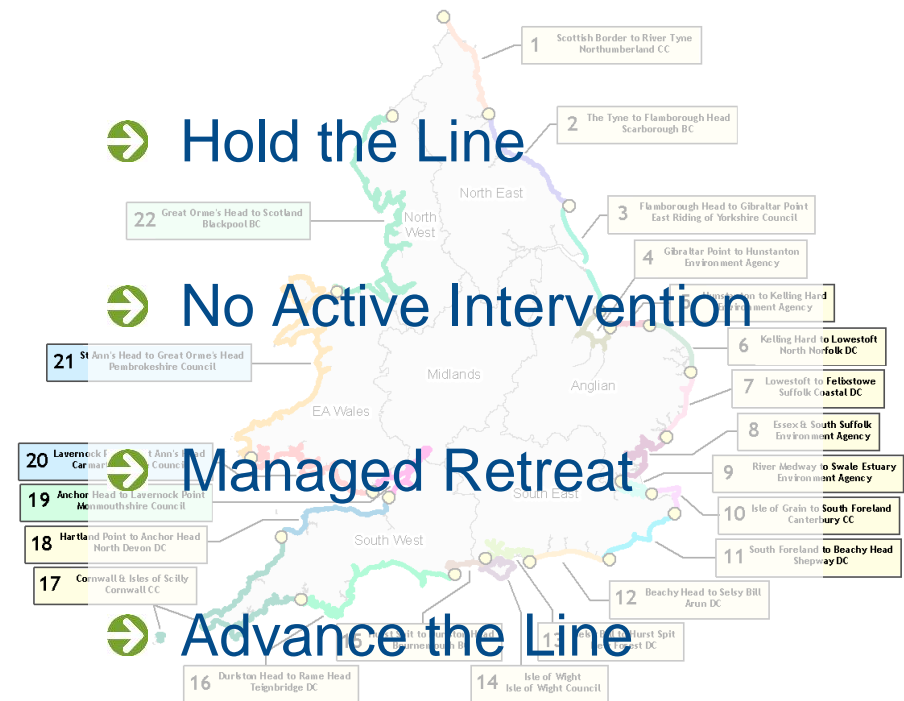
- ⇒ Defra has tasked the Environment Agency to deliver the Strategic Overview by:
 - ⇒ **Understanding the risks** from all sources of flooding and coastal erosion
 - ⇒ **Providing leadership and guidance** on managing those risks
 - ⇒ **Working with others** to join-up delivery of flood risk management
- ⇒ Since April 2008, our Coastal Overview role joins up coastal management activities to ensure effective management, by:
 - ⇒ Setting the direction for how flood and coastal risk is managed – by quality reviewing, approving and ensuring all Shoreline Management Plans
 - ⇒ Ensuring that the strategic direction is delivered – through approving investment schemes & allocating grants
 - ⇒ Facilitating joined-up working with all those working on the coast, ensuring the strategic direction is consistent, sound and sustainable
 - ⇒ Responding to the needs of communities

Strategies & Plans – how we plan and make informed decisions:

Flood Risk Management Plans

- ➔ Risk information
- ➔ Conclusions
- ➔ Objectives (social, environmental, economic)
- ➔ Measures (protection, preparedness, prevention, recovery)

Shoreline Management Plans



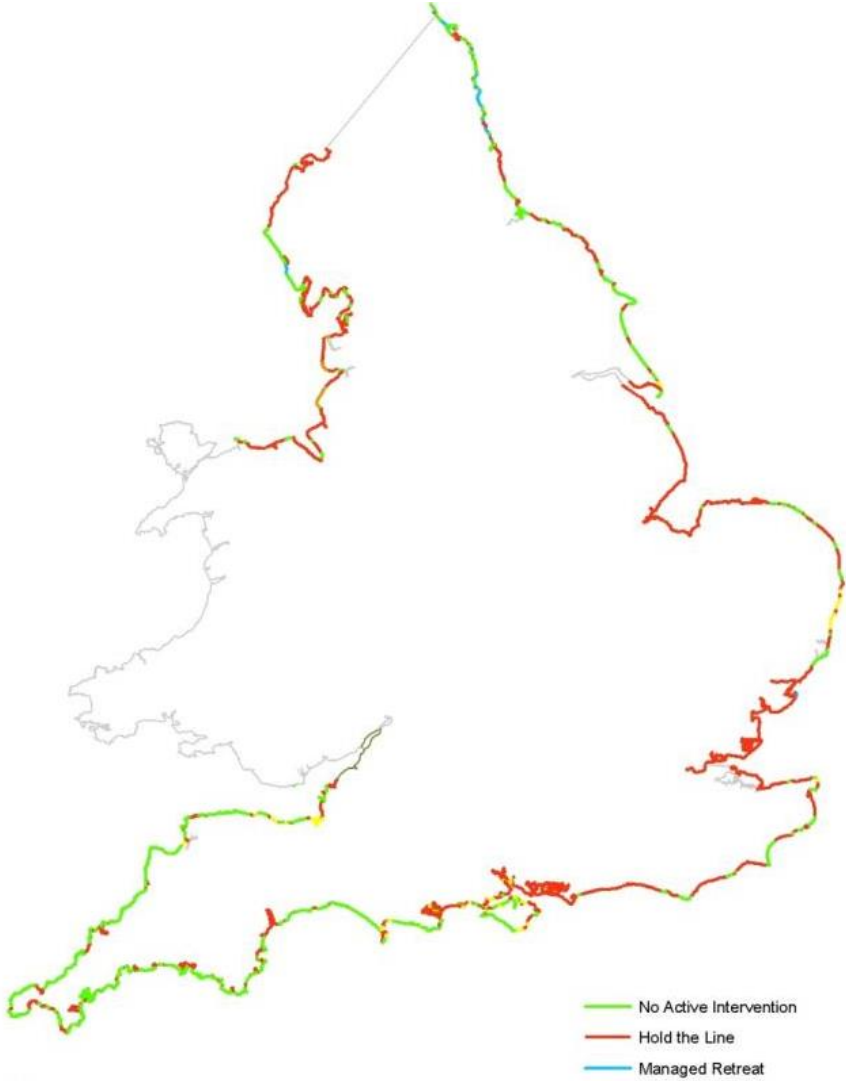
SMPs – what it means on the ground?

- ➔ For the next 20 years:
 - ➔ Hold the Line 52%
English coastline
 - ➔ No Active Intervention 38%
 - ➔ Managed Realignment 10%

- ➔ For between 20 -50 years:
 - ➔ Hold the Line 46% of
 - ➔ No Active Intervention 38%
 - ➔ Managed Realignment 16%

- ➔ For between 50-100 years:
 - ➔ Hold the Line 46% of
 - ➔ No Active Intervention 39%
 - ➔ Managed Realignment 15%

- ➔ Advance the Line ~ 0% in all Epochs



Coastal Protection - how this is funded

⇒ Flood Defence Grant in Aid (FDGiA)

⇒ Government funding

- ⇒ Administered by the Environment Agency on behalf of Defra
- ⇒ For works that protect people and property
- ⇒ Available to Risk Management Authorities
- ⇒ Eligibility based on strict cost-benefit rules (derived from Partnership Funding Calculator)

⇒ Partnership Funding

⇒ Private funding or other public funds

- ⇒ Encourages partnership working through 'cash' or 'in-kind' contributions
- ⇒ Allows other RMAs, businesses, landowners and individuals to contribute to Flood Defence schemes.

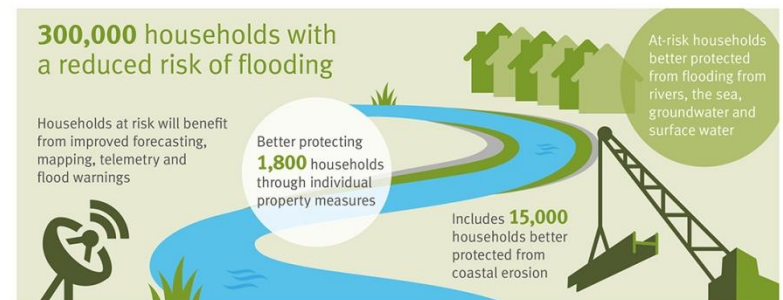
⇒ Local Levy

- ⇒ Administered on a regional basis by Regional Flood and Coastal Committees (RFCCs)

- ➔ Partnership funding providing further opportunities for coastal schemes
- ➔ 6 year investment programme – 45% on coastal flood and erosion schemes
- ➔ Tax incentives for business contributions

Flood and coastal erosion risk management in England

Investment programme 2015 to 2021



Visit gov.uk/government/publications/programme-of-flood-and-coastal-erosion-risk-management-schemes to find out what is happening in your area

UT 10060

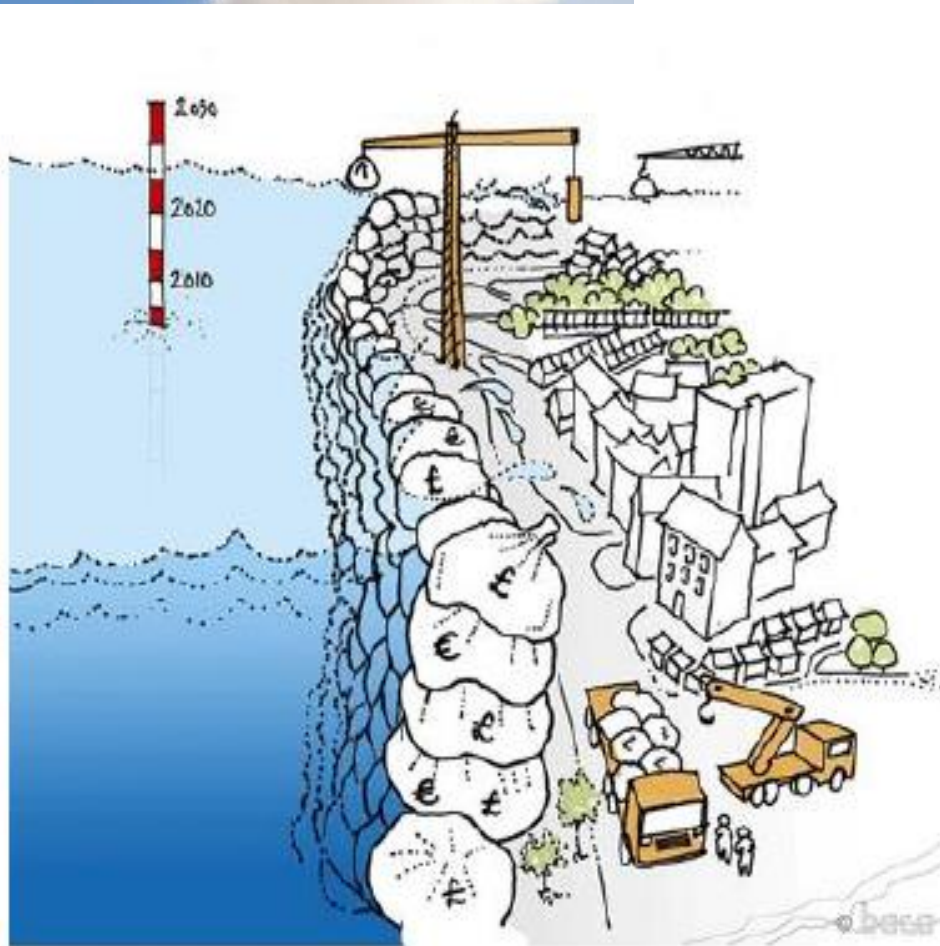
Funding – what does this mean for the coast?

- ➔ Highest ever spending on flood and coastal risk management in recent years
- ➔ UK Climate Change Risk Assessment – defence spending will not keep pace with change
- ➔ Economic justification vs social consequences – we need to adapt before change happens

However there are gaps in current funding streams for adaptation

- ➔ There is no legal ‘right’ to a flood or coastal defence
- ➔ Investment is based on risk and budget according to strict rules
- ➔ There is no ‘compensation’ for properties lost to coastal change

Coast Protection Schemes



IS THIS THE ONLY SOLUTION?



Drivers for change

Coastal Flooding

4 to 9 December 2013



Flooding caused by over-topping and damage to Humber tidal defences, north Lincolnshire: 9 December 2013



800,000

properties protected by Environment Agency flood risk management assets



2,800

properties flooded along the east coast



71

severe flood warnings issued



63

staff moved through mutual aid



5.8 m

highest recorded sea level at Hull



4

VIP visits



2

Thames barrier closures



780

tweets sent by corporate accounts



13 Strategic Management Team meetings held

15 National Operation Incident Management Team meetings held



51,307

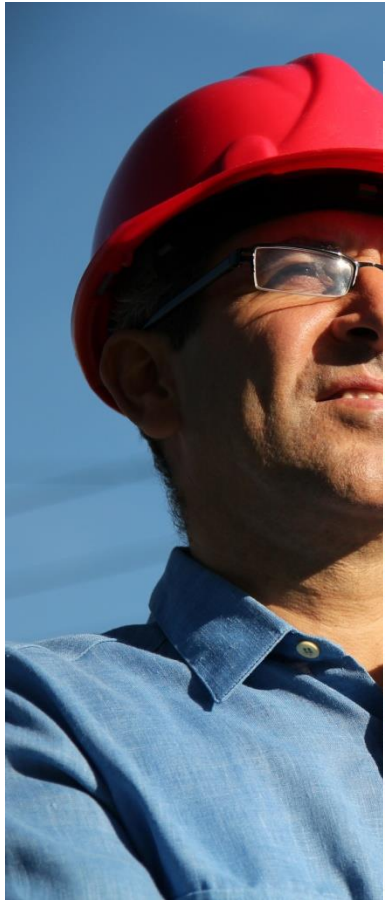
calls to Floodline



Long term planning & coastal adaptation



Adaptation... Who is involved?



Proposed **Coastal Change Management Area** based on the indicative areas in the Shoreline Management Plan shown as being at risk in the short, medium and long term



Enhancement to the beach and cliff top with improved access and seating at appropriate points (not necessarily as shown) to be provided following the demolition of buildings



Prime **roll-back area** for households displaced by coastal change with new housing in keeping with the character of the village and additional hedge and tree planting along the outer boundaries



Second **roll-back area** along California Road with potential extension westwards as required, built in keeping with the character of the village



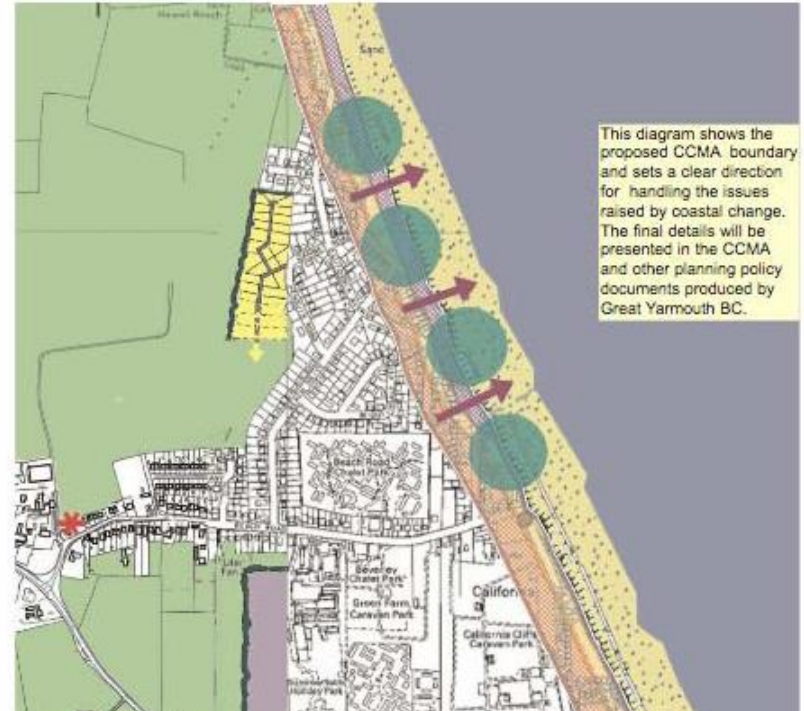
Area for displaced businesses - the California Tavern, shops and arcades - with new car park and improved access to the beach and cliff walk



No – long term planning on the coast needs to utilise spatial planning



park and play area

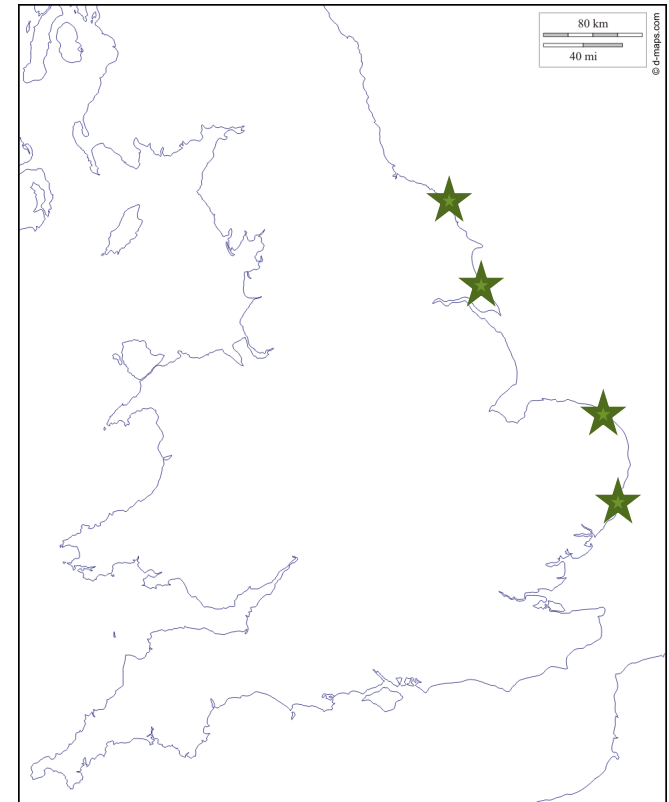


This diagram shows the proposed CCMA boundary and sets a clear direction for handling the issues raised by coastal change. The final details will be presented in the CCMA and other planning policy documents produced by Great Yarmouth BC.

Reproduced from OS with permission. Licence 100018547

Defra Coastal Change Adaptation Pathfinder projects

- ➔ Local authorities bid for £11 million Defra special funding package (2009)
- ➔ 15 local authorities granted money: 11 focussed on community engagement and future options
- ➔ 4 focussed on practical adaptation, where properties were at immediate risk from erosion
- ➔ These 4 received >£6 million of the £11 million to explore **relocation** and **'buy & lease-back'** options



Defra Pathfinder – Case Study Easton Bavents

Use of spatial planning
system: market prices &
planning permission
Coastal Erosion Assistance
Grant
A model for the future?



Where next?

- ➔ Coastal adaptation remains a challenge with mechanisms currently not in place to make it easier to deliver
- ➔ Publication of Defra coastal adaptation pathfinder report soon
- ➔ We need to continue to share learning and 'take risks' by trying new ways to adapt to a changing coast



Thank you!

Please contact me for more information:

rachael.hill@environment-agency.gov.uk