

Kelling Hard to Lowestoft Ness Shoreline Management Plan

Extended Steering Group: Policy Development Workshop

5 November 2003, NNDC Offices, Cromer



Halcrow Group Limited

Halcrow

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1 Briefing Note for the Workshop

1.1 Aim of the workshop

Future defence policies for this shoreline need to be driven by the stakeholders: it is your SMP. Therefore, the aim of the ESG workshop on 5th November is to involve the stakeholders in the setting of future shoreline management policies through bringing together an understanding of the issues, the risks, and an appreciation of each other's viewpoints. This will use the draft Extended Issues Table, included in Appendix A: this includes all issues identified within the SMP area, the associated benefits, an objective for each feature/ benefit and a theme-specific rank.

This stage of decision-making is, however, just one more step in the process. This workshop is aimed at directing those policies and ideals that are to be developed into scenarios and tested; it should not be viewed as defining the final preferred policies themselves. These will be established through the testing process, reviewed against objectives, and then discussion at a subsequent ESG Workshop (February/ March 2004), all of which are crucial to achievement of an appropriate sustainable long term plan.

1.2 Workshop Objectives

The objectives of this Workshop are to establish:

- The vision(s) of the various stakeholders for the whole SMP shoreline over each epoch, i.e. the next 20 years, 50 years, and 100 plus years;
- Any 'overriding drivers' for directing future policy, and specific future policy options that the stakeholders wish to see tested;
- Areas of agreement and conflict;
- Potential scope for compromise and acceptance of future change.

This all needs to come from the stakeholders to direct the development of future policy, through consideration of the information provided prior to, and at, the Workshop.

1.3 Agenda for the Workshop

10.00am START

1. Introduction and presentation of the activities to date. (20mins)

Introduction to the day and overview of the role of the ESG. Summary of work undertaken to date and present position.

2. Presentation of the risks and baseline scenarios. (30 mins)

Overview of the extent of potential risk and illustration of how the coast would look under the two baseline cases: 'no active intervention', i.e. letting defences fail, and 'maintain present management', i.e. retaining all existing defences.

3. Breakout Session 1. (60 mins)

The ESG will be divided into groups of individuals with broadly similar interests or disciplines (e.g. nature conservation, property, commerce etc.). Each group will be asked to provide a practical vision for the SMP coastline over each of the three epochs, taking account of the information on defined issues and risks. Each group will also be asked to consider possible areas for compromise and how accepting of change they can be, especially when considering how the importance of issues might change over time.

4. Group discussion of conclusions from Breakout Session 1. (60 mins)

The conclusions of each group are to be fed back to the rest of the ESG. This will be followed by discussion on key points to see where we have a degree of consensus and where conflict exists between different groups.

12.50 – 13.30: LUNCH

5. Breakout Session 2. (90 mins)

The ESG will be divided into different groups of individuals, with a mix of interests/disciplines in each. Each group will focus upon a separate section of the coast (nominally 5). Each group will be asked to consider the different viewpoints from the morning session and seek a level of agreement on what should be the key drivers/policy options that need to underpin scenario testing for that area. Again consideration needs to be given to any potential change in the issues over time.

6. Group discussion of conclusions from Breakout Session 2. (60 mins)

The conclusions of each group are to be fed back to the rest of the ESG, highlighting areas of agreement and conflict. This will be followed by discussion to give an opportunity to others outside that particular group to add further comment.

7. Summing up. (30 mins)

Discussion and summary of the main points arising from the day; areas of agreement and areas of conflict. We will not attempt to have resolution of all conflicts on the day – if necessary subsequent meetings with the interested parties may be required.

16.30: CLOSE

2 The Extended Issues Table

2.1 Introduction and present position

The Issues Table has been developed to ensure transparency within the SMP process and to ensure that all issues along the SMP shoreline have been correctly identified.

Development of the Table has involved 6 key steps (which were explained further in the Draft Issues Table report distributed in September):

Step 1 – Stakeholder Engagement;

Step 2 - the Baseline;

Step 3 - Identify Benefits;

Step 4 – Set Objective;

Step 5 – Examine the Benefits;

Step 6 – Identify Rank.

A Draft Issues Table was distributed to the ESG members on 9 September 2003 (Ref: WCNORF23/059) and members were asked to:

- Review the features identified;
- Check that all relevant issues have been included;
- Check that the benefits identified are correct and that we have included all beneficiaries;
- Check that the objectives are a good representation of the requirements of the beneficiaries.

Any comments received have now been reviewed and incorporated into the Table.

Since distribution of the Draft Issues Table, work has been undertaken on completing Steps 5 and 6 of the Table development:

Step 5 – Examine the Benefits: Each benefit has been assessed systematically at the SMP scale (as opposed to focusing upon the local scale) using a series of questions:

- At what scales (spatial/temporal) is the benefit important?
- Importance of the benefit, i.e. the impact is this feature/benefit were lost tomorrow?
- Is there enough of the benefit?
- Can the benefit be substituted?

Step 6 – Identify Rank: Using the answers to the above four questions, a comparative ranking has been generated specific to each ‘theme’ (i.e. comparing the relative importance of different environmental areas, rather than comparing nature conservation with housing). This ranking is not intended as a mechanism to prioritise decisions, but is

there to help fully understand the issues that have been raised and aid in the policy development.

Studies have also been carried out to evaluate the impact of coastal defences on coastal behaviour and assess potential vulnerability of the coast, assuming a 'no active intervention' case. These will be presented at the Workshop. Summary statements from these assessments are included in Appendix B of this report.

2.2 Methodology applied in assessing features/benefits

The development of an appropriate methodology has involved the input from an expert panel including representatives from Environment Agency, Local Authority Planning Departments, English Nature (national and regional), English Heritage and Halcrow. It has been recognized that it is not possible to compare different types of features, e.g. environment site with housing, therefore a number of themes have been developed and the ranking is specific to each theme.

- Natural environment (E);
- Housing (H);
- Commercial and agricultural property (C);
- Infrastructure (roads, pipelines etc.) (F);
- Recreation (R);
- Heritage (G);
- Landscape (L).

2.2.1 Scale

This identifies the area over which the benefit has an impact of some significance. The following scales have been defined:

International	Beyond the UK
National	UK
Regional	The major sub-divisions of the country e.g. East Anglia, the South-West etc.
Sub-Regional	Typically the county within which the feature is situated with the scale reflecting the importance of the County Structure plans. Sites close to county borders may need to include at least part of the neighbouring county with respect the influence that it may have on employment, recreation facilities etc.
Local	The immediate vicinity of the feature in question. For major coastal towns this will be the town envelope and the immediate surrounding rural area. For coastal villages and other rural communities this will include that part of the county, any may the nearest town that provides main services such as shops, banking, leisure and recreational facilities.

2.2.2 Importance

This considers the scale of the impact should that feature/benefit be lost tomorrow. For some themes the definition of scale gives an indication of the importance, e.g. the designation of a SSSI (Site of Special Scientific Interest) is on a national scale and also confers on the feature a high level of importance. Other features/benefits will warrant further scrutiny.

Importance is assigned as:

- High
- Medium
- Low

2.2.3 Is there enough?

In terms of nature conservation, it is inherent by the virtue that a feature is designated or identified within a Biodiversity Action Plan (BAP) that there is 'not enough'. For the human built environment, there are also targets within Structure and Local Plans, which give guidance in answering this question.

2.2.4 Can the benefit be substituted?

Some benefits can be substituted whilst others can not, for example it may be possible to divert a threatened footpath and preserve the recreational benefit that it provides whilst ancient woodlands are impossible to recreate within the timescale of the SMP. It is therefore important to consider the practicability of substitution.

In answering this question it is important to address the actual benefit associated with a coastal feature rather than the feature itself as opportunities for making improvements can be explored as part of the planning process. Concentrating on protecting specific access points to the beach may prevent consideration of new access sites more appropriate to modern usage.

2.2.5 Ranking

Using the answers to these questions a ranking system has been developed specific to each theme and each feature/ benefit has been attributed a rank, which includes a letter and a number. The letter refers to the theme (see list above) and the number defines the relative significance, with 1 being the highest rank in each theme.

2.3 Use of the Table

This information is provided to help those involved in this policy development process make informed judgments when they take part in the aforementioned discussions at the Workshop on 5th November. It is not intended to spend time at the Workshop debating the detail of the Table; instead the focus will be on developing appropriate policies.

In addition to the objectives identified within the Issues Table, in setting policy, four *overarching objectives* should also be considered across the whole of the SMP area:

Framework Objective:	Shoreline management policies should comply with the current flood and coastal defence management framework where public funding would be required for their implementation.
Technical Objective:	Shoreline management policies should seek to have no adverse effect on any physical processes that benefits rely upon.
Environmental Objective:	Shoreline management policies should take due consideration of biodiversity targets and the need to maintain, restore or where possible enhance the total stock of natural and historic assets.
Socio-economic Objective:	Shoreline management policies should consider current regional development agency objectives and statutory planning policies.

3 Further Involvement

Once the ranked objectives have been set they will be used, together with the coastal process understanding, to appraise future shoreline management policies. The generic policy options, as defined by the Department for Environment, Food and Rural Affairs (Defra), are:

- **Hold the existing defence line**
- **Advance the existing defence line**
- **Managed realignment** – allowing retreat of the shoreline.
- **No active intervention** – a decision not to invest in providing or maintaining defences.

Once draft policies have been identified, and combined to form possible scenarios for future management of the entire SMP area, there will be further Stakeholder involvement to review the scenarios before their sustainability is appraised to finalise the preferred long-term policy scenario. This is likely to take place in February/March 2004.

APPENDIX A: Extended Issues Table

Glossary of Terms used in the Table

Abbreviation	Term in Full	Definition
AONB	Area of Outstanding Natural Beauty	Designated by the Countryside Commission. The purpose of the AONB designation is to identify areas of national importance and to promote the conservation and enhancement of natural beauty. This includes protecting its flora, fauna, geological and landscape features. This is a statutory designation.
(c)SAC	Special Area of Conservation (SAC)	This designation aims to protect habitats or species of European importance and can include Marine Areas. SACs are designated under the EC Habitats Directive (92/43/EEC) and will form part of the Natura 2000 site network. All SACs sites are also protected as SSSI, except those in the marine environment below the Mean Low Water (MLW).
CWS	County Wildlife Site	Designated nature conservation area.
Feature		Something tangible. This will be of a specific geographical location and specific to the SMP.
IRB	Inshore Rescue Boat	Organisation providing a search and rescue service.
Issue		All issues and aspirations related to flood and coastal defence.
LNR	Local Nature Reserves	These are established by local authorities in consultation with English Nature. These sites are generally of local significance and also provide important opportunities for public enjoyment, recreation and interpretation. This is a statutory designation.
Location		A discrete point on the coast or a length of coastline between two defined points.
NNR	National Nature Reserves	Designated by English Nature. These represent some of the most important natural and semi-natural ecosystems in Great Britain, and are managed to protect the conservation value of the habitats that occur on these sites. This is a statutory designation.
RNLI	Royal National Lifeboat Institution	Organisation providing a national search and rescue service.
SMP	Shoreline Management Plan	Document that provides a large-scale assessment of the risks associated with coastal processes and presents a policy framework to reduce these risks to people and the developed, historic and natural environment in a sustainable manner.
SPA	Special Protection Area (SPA)	Internationally important sites, being set up to establish a network of protected areas of birds.
SSSI	Sites of Special Scientific Interest	These sites, notified by English Nature, represent some of the best examples of Britain's natural features including flora, fauna, and geology. This is a statutory designation.

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TABLE OF FEATURES AND ASSOCIATED ISSUES

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
Norfolk Coast	AONB	<ul style="list-style-type: none"> The way in which the coastline is managed may have an adverse effect on the landscape which contributes to this status 	Yes	<ul style="list-style-type: none"> High landscape value 	National users and local community	Maintain landscape quality	National	High	No	No	L1
Kelling Hard to Sheringham	Cliff top residential properties at Weybourne	<ul style="list-style-type: none"> Potential loss of housing through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents and local community	Prevent loss of residential properties to erosion	Local	Medium	No	Yes	H4
	Weybourne Priory	<ul style="list-style-type: none"> Loss of the Priory to erosion It is considered that there are unexcavated remains alongside the Priory and these will be at risk through continuing erosion 	Yes	<ul style="list-style-type: none"> The Priory is a Scheduled Ancient Monument and remains may be of significant importance 	National community	Prevent loss of Weybourne Priory to erosion	National	High	No	No	G2
	Telegraph Station	<ul style="list-style-type: none"> Loss of infrastructure to erosion 	Yes	<ul style="list-style-type: none"> Important infrastructure 	National community	Prevent loss of telegraph station	National	High	No	Yes	F2
	Agricultural land	<ul style="list-style-type: none"> Potential loss of Grade 3 land through erosion. Much of National Trust land is in Stewardship/set aside 	Yes	<ul style="list-style-type: none"> Economy/employment through farming 	Individual farmers and local community	Prevent loss of farmland to erosion	Sub-regional	Low	Yes	Yes	C5
	Weybourne Cliffs SSSI	<ul style="list-style-type: none"> Continual erosion of cliffs necessary to maintain a clear face for geological study 	Yes	<ul style="list-style-type: none"> Contribution to understanding of national geological succession 	National community	Continued erosion of cliffs to maintain exposures	National	High	No	No	E2
	Beach and Foreshore	<ul style="list-style-type: none"> Dredging of offshore banks for marine aggregate – concern about the potential impact on beach levels Loss of shingle beach which protects areas of grassland, reedswamp and brackish lagoons which have County Wildlife Status 	No	<ul style="list-style-type: none"> Important recreational feature 	Regional users and local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
			Yes	<ul style="list-style-type: none"> County wildlife status 	Regional community	Maintain the existing shingle habitats whilst allowing shingle ridge to roll back	Sub-regional	Medium	No	No	E4
	Car park and beach access at	<ul style="list-style-type: none"> Potential loss of car park 	Yes	<ul style="list-style-type: none"> Tourist and local parking facilities 	Regional users and local community	Maintain car park facilities	Local	Medium	Yes	Yes	F5

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
	Beach Lane	<ul style="list-style-type: none"> Potential loss of access to beach 		<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services 	Regional users and local community	Maintain access to the beach	Local	Low	Yes	Yes	F6
	Sheringham Golf Links	<ul style="list-style-type: none"> Loss of golf course through erosion 	Yes	<ul style="list-style-type: none"> Provides recreation and tourist facility 	Individual owner and local community	Prevent loss of golf course to erosion	Sub-regional	Low	No	No	R4
	National Trail	<ul style="list-style-type: none"> Potential loss of Trail through erosion 	Yes	<ul style="list-style-type: none"> Part of national network of trails important for recreation and tourism 	National and Local community	Maintain Trail throughout frontage	National	High	No	Yes	R2
Sheringham	Residential properties	<ul style="list-style-type: none"> Potential loss of housing through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents, local community	Prevent loss of residential properties to erosion	Sub-regional	Medium	No	Yes	H3
	Commercial properties	<ul style="list-style-type: none"> Potential loss of businesses through erosion 	Yes	<ul style="list-style-type: none"> Local economy Community cohesion Investment of individual business owners 	Individual owners, local economy, local community and visitors	Prevent loss of commercial properties to erosion	Regional	High	No	Yes	C2
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	High	No	Yes	R4
	Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites, accommodation and activities including major attractions, shops, holiday amenities, public open space and promenade 	Yes	<ul style="list-style-type: none"> Tourism forms the main part of the local economy Sites also of benefit to local residents 	Regional and local economies, businesses, residents and tourists	Prevent loss of tourist facilities to erosion	Regional	High	No	Yes	C2
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and roads through erosion 	Yes	<ul style="list-style-type: none"> Services and facilities for the local business and resident communities 	Local community	Maintain services to properties	Sub-regional	High	Yes	Yes	F3
				<ul style="list-style-type: none"> Transportation linkages within Sheringham 	Local community	Maintain communication link within Sheringham	Local	Medium	High	Yes	F5
	Lifeboat Station	<ul style="list-style-type: none"> Potential loss of access Potential loss of building 	Yes	<ul style="list-style-type: none"> The lifeboat is a vital part of the RNLI complement of boats providing lifesaving services around the coast of the UK 	National	Maintain Lifeboat Station in the town	International	High	No	Yes	F2
	Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the Blue Flag beach 	Yes	<ul style="list-style-type: none"> Important recreational feature of the town 	Regional users and local community	Maintain a beach suitable for recreation	International	High	No	Yes	R1

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
		<ul style="list-style-type: none"> Potential health and safety hazard caused by deteriorating defences at foot of cliffs Dredging of offshore banks for marine aggregate – concern about the potential impact on beach levels 	No			purposes					
	Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services 	Local community	Maintain access to the beach	Local	Medium	No	Yes	F5
Sheringham to Cromer	Cliff top properties at East Runton	<ul style="list-style-type: none"> Potential loss of housing through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents and local community	Prevent loss of residential properties to erosion	Local	High	No	Yes	H3
	Cliff top caravan parks	<ul style="list-style-type: none"> Loss of cliff-top caravan parks sited on eroding cliffs Loss of investment on part of local businesses 	Yes	<ul style="list-style-type: none"> Tourist accommodation Local economy 	Individual owners. Regional users, local community	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3
	Agricultural land	<ul style="list-style-type: none"> Potential loss of Grade 3 land through erosion 	Yes	<ul style="list-style-type: none"> Economy/employment through farming 	Individual farmers and local community	Prevent loss of farmland to erosion	Sub-regional	Low	Yes	Yes	C5
	Beeston Cliffs SSSI	<ul style="list-style-type: none"> Continual erosion of cliffs necessary to maintain a clear face for geological study 	Yes	<ul style="list-style-type: none"> Nationally important SSSI Pleistocene reference site 	National community	Continued erosion of cliffs to maintain exposures	National	High	No	No	E2
		<ul style="list-style-type: none"> Erosion or regrading could reduce the area of unimproved grassland on the cliff-top, which is also part of the SSSI through its characteristic plant species 	Yes	<ul style="list-style-type: none"> Host to nationally important plants 	National community	Maintain the existing habitats	National	High	No	No	E2
	Cliffs at West Runton and East Runton	<ul style="list-style-type: none"> Continual erosion of the SSSI designated cliffs necessary to maintain a clear face for geological study and re-sampling 	Yes	<ul style="list-style-type: none"> Nationally important SSSI Pleistocene reference site. Internationally important site with respect to its vertebrate faunas 	International and National communities	Continued erosion of cliffs to maintain exposures	National	High	No	No	E2
		<ul style="list-style-type: none"> Loss of access to beach through erosion or management measures 	Yes	<ul style="list-style-type: none"> Provides access for local fishing, industry, water sports, residents, tourists & emergency services 	Local community	Maintain access to beach	Local	Low	Yes	Yes	F6
	Beach and Foreshore	<ul style="list-style-type: none"> Dredging of offshore banks for marine aggregate – concern about the potential impact on beach level 	No	<ul style="list-style-type: none"> Important recreational feature 	Regional users and local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
		<ul style="list-style-type: none"> Potential deterioration in condition and appearance of beach 	Yes								
		<ul style="list-style-type: none"> Continuing maintenance necessary for existing concrete defences at foot of cliffs 	No								
		<ul style="list-style-type: none"> Potential health and safety hazard caused by deteriorating defences at foot of cliffs 	No								
		<ul style="list-style-type: none"> West Runton SSSI includes the foreshore - designation requires continued erosion to keep the exposures clean 	Yes								
	Car park and beach access	<ul style="list-style-type: none"> Potential loss of car park 	Yes	<ul style="list-style-type: none"> Tourist and local parking facilities 	Regional users and Local community	Maintain car park facilities	Local	Medium	Yes	Yes	F5
		<ul style="list-style-type: none"> Potential loss of access to beach 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services 	Regional users and Local community	Maintain access to the beach	Local	Low	Yes	Yes	F6
	National Trail	<ul style="list-style-type: none"> Potential loss of Trail through erosion 	Yes	<ul style="list-style-type: none"> Part of national network of trails important for recreation and tourism 	National and Local community	Maintain Trail throughout frontage	National	High	No	Yes	R2
Cromer	Residential properties	<ul style="list-style-type: none"> Potential loss of housing through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents and local community	Prevent loss of residential properties to erosion	Sub-regional	High	No	Yes	H2
	Commercial properties	<ul style="list-style-type: none"> Potential loss of businesses through erosion Loss of investment on part of individual business owners 	Yes	<ul style="list-style-type: none"> Local economy Provides facilities for local community and visitors Define the character of Cromer 	Individual businessmen, local community and regional users	Prevent loss of commercial properties due to erosion	Regional	High	No	Yes	C2
	Commercial properties on the promenade	<ul style="list-style-type: none"> Potential loss of businesses through erosion or repeated flooding 	Yes	<ul style="list-style-type: none"> Local economy Provides facilities for local community and visitors 	Individual businessmen, local community and tourists	Prevent damage to/loss of commercial properties due to erosion	Regional	High	No	Yes	C2

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	High	No	Yes	R4
	Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites, accommodation and activities including major attractions, shops, holiday amenities, public open space and promenade 	Yes	<ul style="list-style-type: none"> Tourism forms the main part of the local economy Sites also of benefit to local residents 	Regional and local economies, businesses, residents and tourists	Prevent loss of tourist facilities to erosion	Regional	High	No	Yes	C2
	Pier	<ul style="list-style-type: none"> Inappropriate management of beach and nearshore zone could jeopardise stability of pier and/or access to the pier 	Yes	<ul style="list-style-type: none"> Pier is important tourist attraction and leisure facility 	Local community and regional users	Prevent loss of recreational facility	Regional	Medium	No	Yes	C3
				<ul style="list-style-type: none"> Historical Value (Grade II listed and one of the relatively few surviving piers in the country) 	National	Prevent loss of historical pier	Regional	Medium	No	No	G4
	Lifeboat Station	<ul style="list-style-type: none"> Potential loss of access Potential loss of building 	Yes	<ul style="list-style-type: none"> The lifeboat is a vital part of the RNLI complement of boats providing lifesaving services around the coast of the UK 	National	Maintain Lifeboat Station in the town	International	High	No	Yes	F2
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and roads through erosion Promenade contains sewage pumping station 	Yes	<ul style="list-style-type: none"> Services and facilities for the local communities 	Local community	Maintain services to properties	Local	Medium	Yes	Yes	F5
			Yes	<ul style="list-style-type: none"> Local infrastructure 	Local community	Maintain pumping station	Sub-regional	High	Yes	Yes	F3
	Main Road at Cromer (A149)	<ul style="list-style-type: none"> Potential loss of main A road through erosion 	Yes	<ul style="list-style-type: none"> Provides local access within Cromer to properties & businesses 	Local community	Maintain communication links within Cromer	Local	Medium	Mp	Yes	F5
				<ul style="list-style-type: none"> Provides main links to adjacent towns and along the coast 	Regional economy	Maintain major communication link between Cromer and settlements to the east	Sub-regional	Medium	Yes	Yes	F4
	Sea Wall	<ul style="list-style-type: none"> Conserving the sea wall as a Grade II listed structure, which may restrict the options for its maintenance, repair or replacement. 	Yes	<ul style="list-style-type: none"> Historical value 	National community	Prevent loss of historical seawall	Regional	Medium	No	No	G4
	Cliffs	<ul style="list-style-type: none"> Loss of SAC designated site Continued erosion of cliffs necessary to maintain habitats 	Yes	<ul style="list-style-type: none"> Critical habitat and landscape 	International community	Maintain the existing habitats	International	High	No	No	E1
	Beach and foreshore	<ul style="list-style-type: none"> Loss of County Wildlife site 	Yes	<ul style="list-style-type: none"> Local nature conservation 	Regional/local community	Maintain the existing habitats	Sub-regional	Medium	No	No	E4

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
		<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the Blue Flag beach Potential health and safety hazard caused by deteriorating defences at foot of cliffs Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels 	Yes	<ul style="list-style-type: none"> Important recreational feature of the town 	Regional users and local community	Maintain a beach suitable for recreation purposes	International	High	No	Yes	R1
	Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	No								
			No								
	Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services 	Regional users and local community	Maintain access to beach	Local	Low	Yes	Yes	F6
Cromer to Overstrand	Royal Cromer Golf Course	<ul style="list-style-type: none"> Potential loss of golf course through erosion 	Yes	<ul style="list-style-type: none"> Provides recreation and tourist facility 	Individual owner and local community	Prevent loss of golf course to erosion	Sub-regional	Low	No	Yes	R4
	Cliffs	<ul style="list-style-type: none"> Loss of SAC designated site Continued erosion of cliffs necessary to maintain habitats 	Yes	<ul style="list-style-type: none"> Critical habitat and landscape 	International community	Maintain the existing habitats	International	High	No	No	E1
	Cliff-top footpath	<ul style="list-style-type: none"> Potential loss of footpath through erosion 	Yes	<ul style="list-style-type: none"> Recreational asset for use of residents and visitors 	Local and regional individuals	Maintain footpath throughout frontage	Local	Medium	No	Yes	R4
	Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels 	Yes	<ul style="list-style-type: none"> Important recreational feature of the area 	Local community and visitors	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
Overstrand	Residential properties	<ul style="list-style-type: none"> Potential loss of housing within the village through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss 	Yes			Prevent loss of residential properties to erosion	Local	High	No	Yes	H3
	Commercial properties	<ul style="list-style-type: none"> Potential loss of businesses through erosion 	Yes	<ul style="list-style-type: none"> Local economy Community cohesion Investment of individual business owners 	Individual owners, local economy, local community and visitors	Prevent loss of commercial properties to erosion	Local	Medium	No	Yes	C5
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion, 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	High	No	Yes	R4
	Tourist facilities including the promenade	<ul style="list-style-type: none"> Potential loss of recreation sites, including Jubilee Playground, and amenities 	Yes	<ul style="list-style-type: none"> Tourism businesses and facilities for residents and tourists visiting the area 	Local economies, businesses, residents	Prevent loss of tourist amenities to erosion	Sub-regional	Low	No	Yes	R4

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and roads through erosion 	Yes	<ul style="list-style-type: none"> Services and facilities for the local business and resident communities 	Local community	Maintain services to properties	Local	Low	Yes	Yes	F6
				<ul style="list-style-type: none"> Transportation linkages within Overstrand 	Local community	Maintain communication links within Overstrand	Local	Low	Yes	Yes	F6
	Overstrand Sea Front County Wildlife Site	<ul style="list-style-type: none"> Potential loss of habitat 	Yes	<ul style="list-style-type: none"> Local nature conservation 	Local community	Maintain the existing habitats	Sub-regional	Medium	No	No	E4
	Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services 	Regional users and local community	Maintain access to beach	Local	Low	Yes	Yes	F6
Overstrand to Mundesley	Residential properties in Sidestrand	<ul style="list-style-type: none"> Potential loss of housing through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents, local community	Prevent loss of residential properties to erosion	Local	Medium	No	Yes	H4
	Residential properties in Trimingham	<ul style="list-style-type: none"> Potential loss of housing through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents, local community	Prevent loss of residential properties to erosion	Local	Medium	No	Yes	H4
	Community facilities	<ul style="list-style-type: none"> Potential loss of Trimingham church through erosion 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	Medium	No	No	G5
	MOD communications facility	<ul style="list-style-type: none"> Potential loss of MOD communications facility 	Yes	<ul style="list-style-type: none"> Communications base 	National	Prevent loss of MOD communications facility	International	High	No	Yes	F1
	Coastal Road at Trimingham	<ul style="list-style-type: none"> Loss of coastal road through erosion 	Yes	<ul style="list-style-type: none"> Local access within village to properties 	Local community	Maintain communication link within Trimingham	Local	Low	Yes	Yes	F6
				<ul style="list-style-type: none"> Main coastal route providing link to adjacent towns 	Regional community	Maintain major communication link between Trimingham and adjacent towns and villages	Sub-regional	Medium	Yes	Yes	F4
	Agricultural land	<ul style="list-style-type: none"> Potential loss of Grade 3 land through erosion 	Yes	<ul style="list-style-type: none"> Economy/employment through farming 	Individual farmers and local community	Prevent loss of farmland to erosion	Sub-regional	Low	Yes	Yes	C5

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
	Cliffs	<ul style="list-style-type: none"> Continual erosion of SSSI designated cliffs necessary to sustain habitats and exposures Continued cliff movements to support cliff face habitat types listed within SSSI designation 	Yes	<ul style="list-style-type: none"> Contribution to understanding of national geological succession 	International community	Retain clean exposure of cliff face to maintain the geological study value of the site	National	High	No	No	E2
				<ul style="list-style-type: none"> Soft rock cliff habitats for invertebrates 	International community	Maintain the existing habitats	National	High	No	No	E2
		<ul style="list-style-type: none"> Potential loss of CWS cliff and cliff top habitats 	Yes	<ul style="list-style-type: none"> Cliff top habitats 	Local environmental interests	Maintain the existing habitats	Sub-regional	Medium	No	No	E4
	Beach and Foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Potential health and safety hazard caused by deteriorating defences at foot of cliffs Dredging of offshore banks for marine aggregate – concern about the potential impact on beach levels 	Yes	<ul style="list-style-type: none"> Important recreational feature of the town 	Regional users and local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
			No								
			No								
	Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, jetskiers, tourists, maintenance contractors & emergency services 	Regional users and local community	Maintain access to beach	Local	Low	Yes	Yes	F6
	Coastal footpath	<ul style="list-style-type: none"> Potential loss of path, which is one of the few places where access is available to the cliff top, through erosion 	Yes	<ul style="list-style-type: none"> Part of network of paths important for recreation and tourism 	Regional users and local community	Maintain footpath throughout the frontage	Local	Medium	No	No	R4
Mundesley	Residential properties	<ul style="list-style-type: none"> Potential loss of housing through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents and local community	Prevent loss of residential properties to erosion	Local	High	No	Yes	H3
	Commercial properties	<ul style="list-style-type: none"> Potential loss of businesses through erosion 	Yes	<ul style="list-style-type: none"> Local economy 	Individual businessmen, local community	Prevent loss of commercial properties to erosion	Regional	High	No	Yes	C2
				<ul style="list-style-type: none"> Provides facilities for local community and visitors 	Local community and regional users						
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities, including Mundesley library and Maritime Museum, through erosion 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	High	No	Yes	R4

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	Cliff-top caravan park at Vale Road and Mundesley Cliffs North	<ul style="list-style-type: none"> Loss of cliff-top caravan parks sited on eroding cliffs Loss of considerable investment on part of local businesses 	Yes	<ul style="list-style-type: none"> Tourist accommodation Local economy 	Individual owners. Regional users, local community	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion. Of particular concern are the AW outfall headworks. Need to maintain access to outfall screens for Mundesley Beck 	Yes	<ul style="list-style-type: none"> Provides services and facilities for the local business and resident communities 	Local community	Maintain services to properties, outfall headworks and access to outfall screens	Sub-regional	High	Yes	Yes	F3
	B1159 at Mundesley	<ul style="list-style-type: none"> Potential loss of the road, which is the main thoroughfare in the town and forms the main coast road linking villages between Cromer and Caister Loss of the cliff top section of road would require significant diversions around the town 	Yes	<ul style="list-style-type: none"> Provides local access within Mundesley to properties & businesses 	Local community	Maintain communication link within Mundesley	Local	Medium	No	No	F5
				<ul style="list-style-type: none"> Provides main links to adjacent towns and along the coast 	Regional community /economy	Maintain major communication link between Mundesley and adjacent towns and villages	Sub-regional	Medium	Yes	Yes	F4
	Mundesley IRB station	<ul style="list-style-type: none"> Potential impact on launching of the lifeboat 	Yes	<ul style="list-style-type: none"> Forms part of chain of lifeboats providing rescue services around the coast. 	Local community, national mariners	Maintain effective launching site for lifeboat	Local	Medium	No	Yes	F5
	Beach and foreshore	<ul style="list-style-type: none"> The way in which the coastline is managed may have an adverse effect on the condition and appearance of the Blue Flag beach Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels 	Yes No	<ul style="list-style-type: none"> Important recreational feature of the village 	Regional users and local community	Maintain a beach suitable for recreation purposes	International	High	No	Yes	R1
	Beach Access Vale Road - Mundesley	<ul style="list-style-type: none"> Potential loss of access to beach through erosion or management measures 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services. 	Local community	Maintain access to beach	Local	Low	Yes	Yes	F6
Mundesley to Bacton	Mundesley Holiday Camp and Hillside Chalet Park	<ul style="list-style-type: none"> Potential loss of tourist accommodation due to erosion Loss of considerable investment on part of local businesses 	Yes	<ul style="list-style-type: none"> Tourist accommodation Local economy 	Individual owners. Regional users, local community	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3
	Agricultural land	<ul style="list-style-type: none"> Potential loss of Grade 1 agricultural land through erosion 	Yes	<ul style="list-style-type: none"> Economy/employment through farming 	Individual farmers and local community	Prevent loss of farmland to erosion	Regional	Medium	Yes	Yes	C3

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	Cliffs	<ul style="list-style-type: none"> Continual erosion of SSSI designated cliffs to sustain habitats and exposures 	Yes	<ul style="list-style-type: none"> Nationally important site for its extensive Pleistocene sequence 	National community	Retain clean exposure of cliff face to maintain the geological and biological study value of the site	National	High	No	No	E2
	Beach and Foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels 	Yes No	<ul style="list-style-type: none"> Important recreational feature of the town 	Local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
	Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services 	Regional users and local community	Maintain access to beach	Local	Low	No	Yes	F6
	Paston Way footpath	<ul style="list-style-type: none"> Potential loss of footpath 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services. 	Regional users and local community	Maintain footpath throughout frontage	Local	Medium	No	Yes	R4
Bacton Gas Terminal	Gas Terminal	<ul style="list-style-type: none"> Potential risk of loss or damage to the site and its plant through erosion 	Yes	<ul style="list-style-type: none"> Important nodal point for national energy infrastructure 	National	Prevent loss of Gas Terminal	National	High	No	Yes	F2
				<ul style="list-style-type: none"> Provides local employment 	Local economy, local community	Prevent loss of employment	Regional	High	No	Yes	C2
Bacton and Walcott	Residential properties	<ul style="list-style-type: none"> Potential damage to or loss of housing through flooding Anxiety and stress to owners and occupiers facing loss Standard of flood protection may inhibit further development 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents, local community	Prevent damage to/loss of residential properties due to flooding	Local	High	No	Yes	H3
	Commercial properties	<ul style="list-style-type: none"> Risk of flooding to businesses along the coast road 	Yes	<ul style="list-style-type: none"> Local economy Community cohesion Investment of individual business owners 	Individual owners, local economy, local community and visitors	Prevent damage to/loss of commercial properties due to flooding	Regional	High	No	Yes	C2
	Cliff-top caravan parks at Bacton	<ul style="list-style-type: none"> Potential loss of cliff-top caravan parks due to erosion Loss of considerable investment on part of local businesses 	Yes	<ul style="list-style-type: none"> Tourist accommodation Local economy 	Individual owners. Regional users, local community	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3

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	Infrastructure	<ul style="list-style-type: none">Potential loss of or damage to services through flooding	Yes	<ul style="list-style-type: none">Provide services and facilities for the local business and resident communities	Local community	Maintain services to properties	Local	Low	Yes	Yes	F6
	B 1159 at Walcott	<ul style="list-style-type: none">Potential damage to or loss of road through erosion.Flooding of road through overtopping and spray	Yes	<ul style="list-style-type: none">Strategic access to Bacton Gas Terminal	Regional Users	Maintain access to Bacton Gas Terminal	Sub-regional	Medium	Yes	Yes	F4
				<ul style="list-style-type: none">Transportation linkages between adjacent towns and villages along the coast	Regional economy	Maintain communication links to adjacent towns and villages	Sub-regional	Medium	Yes	Yes	F4
	Beach and foreshore	<ul style="list-style-type: none">Potential deterioration in condition and appearance of the beachDredging of offshore banks for marine aggregate – concern about the potential impact on beach levels	Yes No	<ul style="list-style-type: none">Important recreational feature of the town	Regional users and local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
	Access to beach	<ul style="list-style-type: none">Potential loss of access to beach	Yes	<ul style="list-style-type: none">Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services	Local community	Maintain access to beach	Local	Low	Yes	Yes	F6
Walcott to Happisburgh	Agricultural land	<ul style="list-style-type: none">Potential loss of Grade 1 land through erosion	Yes	<ul style="list-style-type: none">Economy/employment through farming	Individual farmers and local community	Prevent loss of farmland to erosion	Regional	Medium	Yes	Yes	C3
	Beach and foreshore	<ul style="list-style-type: none">Potential health and safety hazard caused by deteriorating defences at foot of cliffsDredging of off-shore banks for marine aggregate – concern about the potential impact on beach levelsPotential deterioration in condition and appearance of the beach	No	<ul style="list-style-type: none">Important recreational feature	Local community and visitors	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
			No								
			Yes								
Access to the beach	<ul style="list-style-type: none">Loss of access to the beach at Ostend	Yes	<ul style="list-style-type: none">Provides access for local fishing, industry, water sports, residents, tourists & emergency services	Local community	Maintain access to beach	Local	Low	Yes	Yes	F6	

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Happisburgh	Residential properties	<ul style="list-style-type: none"> Continued loss of housing through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss Sustainability of the village community reduces with each property loss Difficulty in justification of scheme to protect properties. 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents and local community	Prevent loss of residential properties to erosion	Local	Medium	No	Yes	H4
	Cliff-top caravan park at Happisburgh	<ul style="list-style-type: none"> Loss of cliff-top caravan parks sited on eroding cliffs Loss of considerable investment on part of local businesses 	Yes	<ul style="list-style-type: none"> Tourist accommodation Local economy 	Individual owners. Regional users, local community	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3
	Listed buildings	<ul style="list-style-type: none"> Potential threat to St Mary's Church and the Manor House 	Yes	<ul style="list-style-type: none"> Grade 2 Listed buildings due to national heritage interests 	National and Local community	Prevent loss of Church and Manor House to erosion	Regional	Medium	No	No	G4
	Coast road	<ul style="list-style-type: none"> Potential threat to coast road through erosion of cliffs 	Yes	<ul style="list-style-type: none"> Important local communication link 	Local and sub-regional communities	Maintain communication link between local villages	Sub-regional	Medium	Yes	Yes	F4
	Cliffs	<ul style="list-style-type: none"> Continual erosion of SSSI designated cliffs necessary to maintain a clear face for geological study 	Yes	<ul style="list-style-type: none"> Important geological educational site - important part of the Anglian "jigsaw" of sites which together lead to an understanding of the sequence of glacially related events 	National community	Continued erosion of cliffs to maintain exposures	National	High	No	No	E2
		<ul style="list-style-type: none"> Erosion of cliffs may lead to outflanking of flood defences to the south 	No	<ul style="list-style-type: none"> Defences protect large area of Broadland 							
	Beach and foreshore	<ul style="list-style-type: none"> Potential health and safety hazard caused by deteriorating defences at foot of cliffs Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels Potential deterioration in condition and appearance of the beach 	No No Yes	<ul style="list-style-type: none"> Important recreational feature of the town 	Regional users and local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4

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	Access to beach	<ul style="list-style-type: none"> Re-establishment of access to beach following its collapse in early 2003 	Yes	<ul style="list-style-type: none"> Ramp formerly provided access for residents, tourists, maintenance contractors & emergency services 	Local community	Maintain access to the beach	Local	Low	Yes	Yes	F6
	HM Coastguard Rescue facility	<ul style="list-style-type: none"> Potential loss of building through erosion 	Yes	<ul style="list-style-type: none"> Coordination of international, marine rescue 	International and national mariners	Maintain facility.	International	High	No	Yes	F1
	Lifeboat access	<ul style="list-style-type: none"> Ramp at Happisburgh now derelict forcing RNLI crew to launch at Cart Gap 	Yes	<ul style="list-style-type: none"> The lifeboat is a vital part of the RNLI complement of boats providing lifesaving services around the coast of the UK 	National and international mariners	Create and maintain a launching facility in the vicinity that meets the needs of the lifeboat crew	International	High	No	Yes	F2
Eccles	The Bush Estate, Eccles	<ul style="list-style-type: none"> Potential damage/ loss of housing through erosion – concern of outflanking of concrete defences Anxiety and stress to owners and occupiers facing loss Loss of local unadopted road system EA embargo on any further development of the Bush Estate 	Yes Yes No	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners Tourist accommodation Restricts property at risk behind the sea wall 	Regional users and local community Local economy, local community	Prevent loss of/damage to properties due to flooding	Local	Low	No	Yes	H5
	Car parks at Cart Gap	<ul style="list-style-type: none"> Loss of or damage to car park as a result of erosion or flooding 	Yes	<ul style="list-style-type: none"> Parking facilities for local communities and tourists 	Regional users and local community	Maintain car parking facilities	Local	Medium	Yes	Yes	F5
Eccles to Sea Palling	Car parks at Sea Palling and Horsey Gap.	<ul style="list-style-type: none"> Loss of or damage to car parks as a result of erosion or flooding 	Yes	<ul style="list-style-type: none"> Parking facilities for local communities and tourists 	Regional users and local community	Maintain car parking facilities	Local	Medium	Yes	Yes	F5
	Coastal sand dunes CWS	<ul style="list-style-type: none"> Potential loss of or damage to habitats 	Yes	<ul style="list-style-type: none"> Important coastal habitat 	Regional and local communities	Maintain the existing habitats	Sub-regional	Medium	No	Yes	E4
	Access to the beach	<ul style="list-style-type: none"> Potential loss of access through erosion or management measures Informal accesses through dune system reduce their effectiveness 	Yes Yes	<ul style="list-style-type: none"> Provides access and amenities for local fishing industry, residents, tourists, maintenance contractors & emergency services 	Regional users and local community	Maintain access to beach	Local	Low	Yes	Yes	F6

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Sea Palling	Residential properties	<ul style="list-style-type: none"> Potential loss/damage to housing through flooding Loss of community through inundation if existing defences are allowed to deteriorate Anxiety and stress to owners and occupiers facing loss Standard of flood protection may inhibit further development 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Local community, residents	Prevent damage to/loss of residential properties due to flooding	Local	High	No	Yes	H3
	Commercial properties	<ul style="list-style-type: none"> Potential damage to or loss of businesses through flooding 	Yes	<ul style="list-style-type: none"> Local economy Community cohesion Investment of individual business owners 	Individual owners, local economy, local community and visitors	Prevent damage to/loss of commercial properties due to flooding	Local	Medium	No	Yes	C5
	Infrastructure	<ul style="list-style-type: none"> Potential for damage to or loss of services and amenities through flooding 	Yes	<ul style="list-style-type: none"> Services and facilities for the local business and resident communities 	Local communities, residents, businesses and tourists.	Maintain services to properties	Local	Medium	Yes	No	F5
	Sea Palling IRB station	<ul style="list-style-type: none"> Potential impact on launching of the lifeboat 	Yes	<ul style="list-style-type: none"> Forms part of chain of lifeboats providing rescue services around the coast. 	Local community, national and international mariners	Maintain effective launching site for lifeboat	Local	Medium	No	Yes	F5
	Beach and Foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels Potential deterioration in condition and appearance of the beach Potential loss of Blue Flag award 	No	<ul style="list-style-type: none"> Important recreational feature of the town 	Regional users and local community	Maintain a beach suitable for recreation purposes	International	High	No	Yes	R1
			Yes								
			No								
	Access to the beach	<ul style="list-style-type: none"> Potential loss of access through erosion or management measures Unauthorised removal of flood boards from access 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services. Also launching for personal watercraft 	Local economy, local community and visitors	Maintain access to beach	Local	Low	Yes	Yes	F6
			No								
Waxham	Residential properties	<ul style="list-style-type: none"> Potential damage/ loss of housing through flooding Anxiety and stress to owners and occupiers facing loss Loss of community Standard of flood protection may inhibit further development 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents, local community	Prevent damage to/loss of residential properties due to flooding	Local	Medium	No	Yes	H4

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
	Community facilities	<ul style="list-style-type: none"> Potential loss of Waxham church through erosion 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of church to erosion	Local	Medium	No	No	G5
	Waxham Barn	<ul style="list-style-type: none"> Potential risk to Grade 1 listed building 	Yes	<ul style="list-style-type: none"> The barn is one of the most important historical buildings in the county 	Regional economy, National and local communities	Prevent damage to/loss of Waxham Barn due to flooding	National	High	No	No	G2
Sea Palling to Winterton	Horsey Winterton Dunes and Ness	<ul style="list-style-type: none"> Potential loss of dune and coastal habitats due to coastal squeeze (candidate SAC site) Site is a SSSI geomorphological site and as such is dependent on coastal processes continuing to operate. The integrity of the ness is dependent on a continuing flow of sediment from the north Loss of County Wildlife Site and NNR Loss of unique landscape qualities Interpretation of coastal processes assumed in preparing the CHaMP for Winterton Ness 	Yes	<ul style="list-style-type: none"> Habitat site for rare amphibians and populations of species which nest on foreshore. Beach height is critical. 	International community	Maintain the existing habitats	International	High	No	Yes	E2
			Yes	<ul style="list-style-type: none"> Contribution to understanding of ness geomorphology (Unique landscape - included in AONB above) 	National community	Maintain natural geomorphological processes	National	High	No	No	E2
			No								
Happisburgh to Winterton Broadlands	Residential properties (including Villages of Hickling, Horsey, Potter Heigham, West Somerton)	<ul style="list-style-type: none"> Potential damage/ loss of housing through flooding Anxiety and stress to owners and occupiers facing loss Standard of flood protection may inhibit further development 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Regional users and local community Local economy, local community	Prevent damage to/loss of residential properties due to flooding	Local	High	No	Yes	H3
	Commercial properties (including Villages of Hickling, Horsey, Potter Heigham, West Somerton)	<ul style="list-style-type: none"> Potential loss/damage to commercial properties and community facilities due to inundation 	Yes	<ul style="list-style-type: none"> Tourism is important for local economy Local community cohesion and houses for people Intrinsic part of the Broadland landscape and attractions 	Local communities, individual property owners, regional tourism and agricultural economies	Prevent damage to/loss of commercial properties due to flooding	Regional	High	No	Yes	C2
	Broadland Habitats	<ul style="list-style-type: none"> Potential saltwater penetration of this otherwise freshwater area Loss/damage to nationally important wetland area for recreation and conservation due to wide-scale inundation of this area 	Yes Yes	<ul style="list-style-type: none"> Important freshwater systems Lowland grass and dune/dune heath land interest 	International community	Maintain the existing habitats	International	High	No	No	E1

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		<ul style="list-style-type: none"> Changes in coastal processes resulting in biological issues on cSAC Drainage of the land and deep-water seepage are increasing the salinity of run-off into River Thurne 	Yes								
	Agricultural land	<ul style="list-style-type: none"> Potential damage to or ultimate loss of land through flooding 	Yes	<ul style="list-style-type: none"> Economy/employment through farming 	Individual farmers and local community	Prevent damage to/loss of farmland due to flooding	Regional	Low	Yes	Yes	C4
	Tourist related property and facilities	<ul style="list-style-type: none"> Unrestricted flooding of the Broads area would lead to a decimation of the tourism economy of the area with loss of pubs, restaurants, boatyards 	Yes	<ul style="list-style-type: none"> Tourism forms the main element of the local economy 	Regional users and local economy	Prevent damage to/loss of tourist facilities due to flooding	Regional	High	No	Yes	C2
	Windmills and other historic buildings	<ul style="list-style-type: none"> Loss/ damage to historic properties due to inundation 	Yes	<ul style="list-style-type: none"> Characteristic feature of the Broads area Tourist attraction 	Regional and Local environmental interests	Prevent damage to/loss of historical buildings due to flooding	Regional	Medium	No	No	G4
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and roads through erosion 	Yes	<ul style="list-style-type: none"> Services and facilities for the local business and resident communities 	Local community	Maintain services to properties	Sub-regional	High	No	No	F3
	B1159 Coast road	<ul style="list-style-type: none"> Potential loss of road through inundation 	Yes	<ul style="list-style-type: none"> Vital communication route for villages between Happisburgh and Winterton 	Regional economy, residents, businesses local community	Maintain communication link for villages between Happisburgh and Winterton	Sub-regional	High	No	No	F3
	Beach and foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels Potential deterioration in condition and appearance of the beach 	No	<ul style="list-style-type: none"> Important recreation feature of the area 	Local economy, local community and visitors	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
		<ul style="list-style-type: none"> Potential threat to Little Tern nesting areas 	Yes	<ul style="list-style-type: none"> Although no formal designation, nesting site of nationally rare species 	Local community	Maintain nesting site	Local	Low	Yes	Yes	E5
	Access to the beach	<ul style="list-style-type: none"> Potential loss of access through erosion or management measures Informal accesses through dune system reduce their effectiveness as part of the defence system 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services 	Regional users and local community	Maintain suitable access to beach	Local	Low	Yes	Yes	F6

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Winterton	Residential properties	<ul style="list-style-type: none"> Potential damage to or loss of housing through flooding Concern over reduced protection due to eroding dunes Anxiety and stress to owners and occupiers facing loss Impact on sustainability of the village community Standard of flood protection may inhibit further development 	Yes	<ul style="list-style-type: none"> Homes for people. Represents substantial investment for individual property owners 	Individual residents and local community	Prevent damage to/loss of residential properties due to flooding	Local	Medium	No	Yes	H4
		<ul style="list-style-type: none"> Complaints from residents that windblown sand is migrating on to their property 	Yes								
	Recreation and Tourist facilities	<ul style="list-style-type: none"> Potential damage to or loss of shops, cafes, pub and holiday accommodation through flooding 	Yes	<ul style="list-style-type: none"> Tourist amenities - represent considerable investment on the part of the individual business owners and local economy 	Individuals, local economies, regional users	Prevent loss of or damage to tourist facilities due to flooding	Regional	Medium	No	Yes	C3
	CWSs	<ul style="list-style-type: none"> Potential damage if coastal defences breached 	Yes	<ul style="list-style-type: none"> Important habitat 	Regional and Local communities	Maintain the existing habitats	Sub-regional	Medium	No	No	E4
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	High	No	Yes	R4
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion Loss of a number of submarine telecommunications cables Loss or damage to local infrastructure 	Yes	<ul style="list-style-type: none"> Provide services and facilities for the local business and resident communities 	Local community	Maintain services to properties	Local	Low	Yes	Yes	F6
				<ul style="list-style-type: none"> National submarine infrastructure 	National community	Prevent loss of /damage to cable landing site	International	High	No	Yes	F1
	Coastguard Station	<ul style="list-style-type: none"> Mass movement of the Ness or denudation of the beach and foreshore could have an adverse effect on the Coastguard station site 	Yes	<ul style="list-style-type: none"> Part of the national system for coordinating search and rescue at sea and other tidal waters 	National community	Prevent loss of /damage to Coastguard station	International	High	No	Yes	F1
	Beach and foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels Potential deterioration in condition and appearance of the beach 	No Yes	<ul style="list-style-type: none"> Important recreational feature of the village and locality 	Regional users and local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4

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	Access to beach	<ul style="list-style-type: none"> Loss of access to beach through erosion, flood damage or management measures 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists and maintenance contractors 	Local community	Maintain access to beach	Local	Low	Yes	Yes	F6
Winterton to Newport	Winterton Valley Estate	<ul style="list-style-type: none"> Potential loss of tourist accommodation through erosion 	Yes	<ul style="list-style-type: none"> Provides tourist facilities - represents significant investment on the part of the owners and provides local employment 	Regional users, local economy	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3
	Holiday development at Hemsby	<ul style="list-style-type: none"> Potential erosion of Hemsby Marrams which provides natural protection to the village 	Yes	<ul style="list-style-type: none"> Provides tourist facilities - represents significant investment on the part of the owners and provides local employment 	Regional users, local economy	Prevent loss of tourist facilities to erosion	Regional	Medium	Yes	Yes	C3
	Hemsby Marrams	<ul style="list-style-type: none"> Potential erosion of dunes and loss of habitat 	Yes	<ul style="list-style-type: none"> Important habitats 	Local environmental interests	Maintain the existing habitats	Local	Low	Yes	Yes	E5
	Beach and foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels Potential deterioration in condition and appearance of the beach 	No Yes	<ul style="list-style-type: none"> Important recreational feature of the town 	Regional users and local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
Hemsby and Newport	Residential properties	<ul style="list-style-type: none"> Loss of cliff top properties through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss Sustainability of continued protection 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents and local community	Prevent loss of residential properties to erosion	Local	Medium	No	Yes	H4
	Tourism related property and facilities	<ul style="list-style-type: none"> Potential loss of cliff top amenities and businesses through erosion 	Yes	<ul style="list-style-type: none"> Important tourist facilities Local economy 	Regional users, local economy	Prevent loss of tourist facilities to erosion	Regional	High	No	Yes	C2
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	High	No	Yes	R4
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion 	Yes	<ul style="list-style-type: none"> Provide services and facilities for the local business and resident communities 	Local community	Maintain services to properties	Local	Low	Yes	Yes	F6
				<ul style="list-style-type: none"> Transportation linkages within Newport 	Local community	Maintain communication link within Newport	Local	Low	Yes	Yes	F6

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	Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services 	Regional users and local community	Maintain access to beach	Local	Low	Yes	Yes	F6
Scratby and California	Residential properties at Scratby and California	<ul style="list-style-type: none"> Loss of cliff top properties through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss Sustainability of continued protection 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents and local community	Prevent loss of residential properties to erosion	Local	High	No	Yes	H3
	Holiday Developments at Scratby and California	<ul style="list-style-type: none"> Potential loss of tourist accommodation and supporting infrastructure through erosion 	Yes	<ul style="list-style-type: none"> Important tourist facilities Local economy 	Regional users and local economy	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3
	Recreational and Tourist facilities	<ul style="list-style-type: none"> Potential loss of cliff top amenities and businesses through erosion 	Yes	<ul style="list-style-type: none"> Important tourist and local community facilities Local economy 	Regional users and local economy	Prevent loss of tourist facilities to erosion	Regional	High	No	Yes	C2
	County Wildlife Site	<ul style="list-style-type: none"> Potential risk of damage through erosion to heath land at County Wildlife Site along the cliff top 	Yes	<ul style="list-style-type: none"> Medium conservation value Habitat 	Local community; conservation groups	Maintain the existing habitats	Sub-regional	Medium	No	No	E4
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion Loss of the promenade which houses a sewage pumping station 	Yes	<ul style="list-style-type: none"> Provide services and facilities for the local business and resident communities. Pumping station is vital part of mains drainage system 	Local community	Maintain services to properties	Local	Low	Yes	Yes	F6
			Yes		Local community	Maintain communication link between Scratby and California	Local	Low	Yes	Yes	F6
	Beach and foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels Potential deterioration in condition and appearance of the beach 	No Yes	<ul style="list-style-type: none"> Important recreational feature of the area 	Local community and visitors	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
	Access to beach at California Gap	<ul style="list-style-type: none"> Loss of access to beach through erosion or management measures 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors 	Regional users and local community	Maintain access to beach	Local	Low	Yes	Yes	F6

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Caister and Great Yarmouth North Denes	Residential properties	<ul style="list-style-type: none"> Loss of cliff top properties through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss Sustainability of continued protection 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents and local community	Prevent loss of residential properties to erosion	Local	High	No	Yes	H3
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	High	No	Yes	R4
	Seafront holiday centres and caravan parks at Caister	<ul style="list-style-type: none"> Potential loss of sites through erosion, including holiday properties in private ownership 	Yes	<ul style="list-style-type: none"> Important tourist and local community facilities Local economy and represents considerable investment on the part of business and property owners 	Individuals, local economy and regional users	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3
	Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of amenities and businesses through erosion 	Yes	<ul style="list-style-type: none"> Important tourist facilities Local economy 	Regional users, local economy	Prevent loss of tourist facilities to erosion	Regional	High	No	Yes	C2
	Caister Point County Wildlife Site	<ul style="list-style-type: none"> Potential risk of damage through erosion to heath land at Caister Point County Wildlife Site along the cliff top 	Yes	<ul style="list-style-type: none"> Medium conservation value Habitat 	Local community; conservation groups	Maintain the existing habitats	Sub-regional	Medium	No	Yes	E4
	Caister Volunteer Rescue Service	<ul style="list-style-type: none"> Potential impact on launching of the lifeboat 	Yes	<ul style="list-style-type: none"> Forms part of chain of lifeboats providing rescue services around the coast. 	Local community, national and international mariners	Maintain effective launching site for lifeboat	Local	Medium	No	Yes	F5
	Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels Integrity of the North Denes SSSI/SPA and impact of any future management regime - high vulnerability to any disturbance by works for coastal defence Continued accretion of dune system which can not migrate landwards because of development 	Yes	<ul style="list-style-type: none"> Important recreational feature of the area The SPA is of importance for an internationally important population of breeding Little Terns SSSI designation included dune system. 	Local community and visitors	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
			No		International and national communities	Maintain the existing habitats	International	High	No	No	E1

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	Access to beach	<ul style="list-style-type: none"> Loss of access to beach through erosion or management measures 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents, tourists, maintenance contractors 	Regional users and local community	Maintain access to beach	Local	Low	Yes	Yes	F6
Great Yarmouth	Residential properties	<ul style="list-style-type: none"> Potential loss of or damage to housing through erosion or flooding 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners. 	Individual residents and local community	Prevent damage to/loss of residential properties due to flooding	National	Medium	No	Yes	H2
	Commercial properties	<ul style="list-style-type: none"> Potential loss of or damage to businesses through erosion 	Yes	<ul style="list-style-type: none"> Local economy Community cohesion Investment of individual business owners Many sea front buildings go to define the character of Great Yarmouth 	Individual owners, local economy, local community and visitors	Prevent damage to/loss of commercial properties due to flooding	Regional	High	No	Yes	C2
	Industrial units at South Denes	<ul style="list-style-type: none"> Viability of continued use of this part of the frontage Will form an important hinterland to the proposed East Port development 	Yes	<ul style="list-style-type: none"> Former industrial area now somewhat neglected but which is likely to be revitalised by East Port development 	Local economy and businesses	Protect land to allow for development potential. Once developed, prevent damage/loss of commercial properties due to flooding	Regional	High	No	Yes	C2
	Existing Port	<ul style="list-style-type: none"> Need to continue to operate Flooding causes operational problems 	Yes	<ul style="list-style-type: none"> Important element of local and regional economy. 	Local and regional communities	Ensure port can continue to operate	International	High	No	Yes	F1/ C1
	Proposed Great Yarmouth Outer Harbour	<ul style="list-style-type: none"> Potential for economic regeneration of the area and long-term implications of this feature for the area Impact on coastal processes - perceived increased risk of erosion at Gorleston, Hopton and Corton Maintenance dredging implications 	Yes Yes Yes	<ul style="list-style-type: none"> Important for regeneration of Great Yarmouth as a town/regional port - associated economic benefits associated with the development Concern over impact on adjacent beaches 	Regional and local economies, residents, businesses Local community; industry; commerce	<i>To be considered at policy stage</i>	-	-	-	-	-
	Caravan parks	<ul style="list-style-type: none"> Loss of caravan parks Loss of investment on part of local businesses 	Yes	<ul style="list-style-type: none"> Tourist accommodation Local economy 	Individual owners. Regional users, local community	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3
	Great Yarmouth and Caister Golf Club	<ul style="list-style-type: none"> Loss of golf course through erosion 	Yes	<ul style="list-style-type: none"> Provides recreation and tourist facility 	Individual owner and local community	Prevent loss of golf course to erosion	Sub-regional	Low	No	Yes	R4

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	Great Yarmouth Race Course	<ul style="list-style-type: none"> Loss of the race course through erosion 	Yes	<ul style="list-style-type: none"> Provides recreation and tourist facility 	Individual owner and local community	Prevent loss of race course to erosion	Regional	High	No	Yes	R2
	Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites, accommodation and activities including major attractions, shops, holiday amenities, public open space and promenade and car parks 	Yes	<ul style="list-style-type: none"> Tourism forms the main part of the local economy Sites also of benefit to local residents 	Regional and local economies, businesses, residents and tourists	Prevent loss of tourist facilities to erosion	National	High	No	Yes	C2
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion Potential loss of beach road 	Yes	<ul style="list-style-type: none"> Provide services and facilities for the local business and resident communities 	Local communities, residents, businesses and tourists	Maintain services to properties	Sub-regional	Medium	Yes	Yes	F4
				<ul style="list-style-type: none"> The beach road is a key link for tourist attractions along the promenade and part of the local road network 	Local communities, residents, businesses and tourists	Prevent loss of communication link along the beach frontage	Local	High	No	Yes	F5
	Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach which has a seaside award Dredging of off-shore banks for marine aggregate 	Yes No	<ul style="list-style-type: none"> East Coast's most popular resort Important recreational feature of the town 	Regional users and local economy and community	Maintain a beach suitable for recreation purposes	National	High	No	Yes	R2
Gorleston	Port Entrance	<ul style="list-style-type: none"> Need to protect structures 	Yes	<ul style="list-style-type: none"> The pier and training wall keep open the navigation channel to the port and protect Gorleston from flooding and erosion 	Regional and local economies, residents and businesses	Maintain an entrance to the port	International	High	No	Yes	F1
	Residential properties	<ul style="list-style-type: none"> Potential loss/damage to housing through flooding Loss of community through inundation if existing defences are allowed to deteriorate Anxiety and stress to owners and occupiers facing loss 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Local community, residents	Prevent loss of/damage to properties due to flooding	Sub-regional	High	No	Yes	H2
	Commercial properties	<ul style="list-style-type: none"> Potential loss of or damage to businesses through erosion 	Yes	<ul style="list-style-type: none"> Local economy Community cohesion Investment of individual business owners 	Local economy, local community	Prevent loss of commercial properties to erosion	Regional	High	No	Yes	C2
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion, 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	High	No	Yes	R4

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	Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites accommodation and activities including major attractions, shops, holiday amenities, public open space and promenade 	Yes	<ul style="list-style-type: none"> Tourism forms the main part of the local economy Sites also of benefit to local residents 	Regional and local economies, businesses, residents and tourists	Prevent loss of tourist facilities to erosion	Sub-regional	Low	No	Yes	R4
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion including Pumping station and sewer 	Yes	<ul style="list-style-type: none"> Provide services and facilities for the local business and resident communities 	Local community	Maintain services to properties	Local	Low	Yes	Yes	F6
				<ul style="list-style-type: none"> Local infrastructure 	Local communities, residents, businesses and tourists	Maintain pumping station	Sub-regional	High	Yes	Yes	F3
	Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach which has a Blue Flag award Dredging of off-shore banks for marine aggregate 	Yes No	<ul style="list-style-type: none"> Important recreational feature of the town 	Regional users and local community	Maintain a beach suitable for recreation purposes	International	High	No	Yes	R1
Gorleston to Hopton	Gorleston Golf Course	<ul style="list-style-type: none"> Loss of golf course through erosion 	Yes	<ul style="list-style-type: none"> Provides recreation and tourist facility 	Individual owner and local community	Prevent loss of golf course to erosion	Sub-regional	Low	No	Yes	R4
Hopton	Residential properties	<ul style="list-style-type: none"> Potential loss of housing through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss Viability of protecting Hopton in the longer-term 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Individual residents, local community	Prevent loss of residential properties to erosion	Local	Medium	No	Yes	H4
	Commercial properties	<ul style="list-style-type: none"> Potential damage to or loss of businesses through flooding or erosion 	Yes	<ul style="list-style-type: none"> Local economy Community cohesion Investment of individual business owners 	Individual owners, local economy, local community and visitors	Prevent loss of commercial properties to erosion	Local	Medium	No	Yes	C5
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	High	No	Yes	R4
	Hopton Holiday Village	<ul style="list-style-type: none"> Potential loss of tourist accommodation through erosion 	Yes	<ul style="list-style-type: none"> Tourist accommodation Local economy 	Individual owners. Regional users, local community	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3

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	Recreational and tourist facilities	<ul style="list-style-type: none"> Protection of tourist and recreation sites, accommodation and activities including major attractions, shops, holiday amenities, public open space and promenade 	Yes	<ul style="list-style-type: none"> Tourism forms the main part of the local economy Sites also of benefit to local residents 	Regional and local economies, businesses, residents and tourists	Prevent loss of tourist facilities to erosion	Regional	High	No	Yes	C2
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion, including the promenade 	Yes	<ul style="list-style-type: none"> Provide services and facilities for the local business and resident communities. Promenade is key attraction of the resort 	Local communities, residents, businesses and tourists.	Maintain services to properties	Local	Low	Yes	Yes	F6
	Beach and Foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Potential health and safety hazard caused by deteriorating defences at foot of cliffs Dredging of off-shore banks for marine aggregate and impact on beach levels 	Yes No No	<ul style="list-style-type: none"> Important recreational feature of the town 	Regional users and local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
	Access to beach	<ul style="list-style-type: none"> Loss of access to beach through erosion or management measures 	Yes	<ul style="list-style-type: none"> Provides access for local fishing industry, residents and tourists 	Local community	Maintain access to beach	Local	Low	Yes	Yes	F6
Hopton to Corton	Broadland Sands Holiday Centre	<ul style="list-style-type: none"> Potential loss of tourist accommodation through erosion 	Yes	<ul style="list-style-type: none"> Tourist accommodation Local economy 	Individual owners. Regional users, local community	Prevent loss of tourist accommodation to erosion	Regional	Medium	Yes	Yes	C3
	Agricultural land	<ul style="list-style-type: none"> Risk of loss of Grade 2 agricultural land through erosion 	Yes	<ul style="list-style-type: none"> Economy/employment through farming 	Individual farmers and local community	Prevent loss of farmland to erosion	Regional	Low	Yes	Yes	C4
	Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Potential health and safety hazard caused by deteriorating defences at foot of cliffs Dredging of off-shore banks for marine aggregate and impact on beach levels 	Yes No No	<ul style="list-style-type: none"> Important recreational feature of the town 	Regional users and local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
	Access to beach at Broadland Sands	<ul style="list-style-type: none"> Potential loss of access to beach through erosion or management measures 	Yes	<ul style="list-style-type: none"> Provides access for local residents, tourists and local authority maintenance contractors 	Local community	Maintain access to beach	Local	Low	Yes	Yes	F6

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
Corton	Residential properties	<ul style="list-style-type: none"> Potential loss of housing through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss Potential loss of community cohesion through loss of property Viability of protecting Corton in the longer-term – concern over limited life of new defence works Concern expressed by Parish Council that no compensation is payable to affected property owners Concern about outflanking of defences from adjoining undefended frontages 	Yes	<ul style="list-style-type: none"> Homes for people - represents substantial investment for individual property owners 	Local community, residents	Prevent loss/damage to properties due to erosion	Local	Medium	No	Yes	H4
	Commercial properties	<ul style="list-style-type: none"> Potential loss of businesses through erosion Viability of protecting Corton in the longer-term – concern over limited life of new defence works 	Yes	<ul style="list-style-type: none"> Local economy - represents investment of individual business owners 	Individual businessmen, local community	Prevent damage/loss of commercial properties due to erosion	Local	Medium	No	Yes	C5
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion, including Common land at Bakers Score, where Local Plan obligation to protect this land from erosion 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion	Local	High	No	Yes	R4
	Tourist facilities	<ul style="list-style-type: none"> Protection of tourist and recreation sites, accommodation and activities including Pleasurewoods Hills Park 	Yes	<ul style="list-style-type: none"> Provides facilities for local community and visitors Local economy 	Local community and regional users	Prevent loss of tourist and recreational facilities	Sub-regional	Low	No	Yes	R4
	Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion, including the main village street and mains drainage 	Yes	<ul style="list-style-type: none"> Provide services and facilities for the local business and resident communities 	Local community	Maintain services to properties	Local	Low	Yes	Yes	F6
				<ul style="list-style-type: none"> Local access within village to properties 	Regional community	Maintain communication link within Corton	Local	Low	No	No	F5
	Cliffs	<ul style="list-style-type: none"> Erosion of cliff face needs to continue to maintain clean exposures and retain SSSI designation 	Yes	<ul style="list-style-type: none"> Important geological educational site - type-site for the Anglian Glacial Stage 	National community	Retain clean exposure of cliff face to maintain the geological study value of the site	National	High	No	No	E2
	Beach and foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for marine aggregate 	No	<ul style="list-style-type: none"> Important recreational feature of the town and 	Local community and visitors	Maintain a beach suitable for recreation	Sub-regional	Low	No	Yes	R4

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
		<ul style="list-style-type: none"> Impact of Great Yarmouth Outer Harbour and Gorleston Reefs projects on future beach levels in front of the village Retention of specialist recreation facility Potential health and safety hazard caused by deteriorating defences at foot of cliffs Public notion that lowering beach levels in front of the village could be improved by restoring the failed groyne system 	Yes No No Yes	part of beach is designated for use by nude bathers		purposes					
	Access to beach at Bakers Score and Tibbenham's Score	<ul style="list-style-type: none"> Potential loss of access through erosion or management measures Current loss of access at Bakers Score 	Yes	<ul style="list-style-type: none"> Provides access for residents, tourists and maintenance contractors 	Local communities, residents, businesses and tourists.	Maintain access to beach	Local	Low	Yes	Yes	F6
Corton to Lowestoft	Infrastructure	<ul style="list-style-type: none"> Rising mains to Corton Sewage Treatment works cross the site of Gunton Warren 	Yes	<ul style="list-style-type: none"> The rising main is essential infrastructure for the treatment and disposal of sewage from Lowestoft 	Local economy, local community	Prevent loss of/damage to sewage mains	Sub-regional	High	Yes	Yes	F3
	Dip Farm Golf Course	<ul style="list-style-type: none"> Loss of golf course through erosion 	Yes	<ul style="list-style-type: none"> Provides recreation and tourist facility 	Individual owner and local community	Prevent loss of golf course to erosion	Sub-regional	Low	No	Yes	R4
	Gunton Warren	<ul style="list-style-type: none"> Loss of beach will threaten future of designated LNR/County Wildlife site Open Space indicated in Local Plan as needing protection 	Yes	<ul style="list-style-type: none"> Important dune and grassland habitats 	Regional community	Maintain the existing habitats	Sub-regional	Medium	No	No	E4
			Yes	<ul style="list-style-type: none"> Public amenity 	Local community & tourism	Prevent loss of public open space to erosion	Local	Low	No	Yes	R4
	Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Potential health and safety hazard caused by deteriorating groyne field Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels 	Yes	<ul style="list-style-type: none"> Important recreational feature of the town 	Local economy, local community and visitors Local economy, local community and visitors	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
			No No								
	Access to beach at Tramps Alley	<ul style="list-style-type: none"> Potential loss of access through erosion or management measures Lack of beach access points along this section of coast 	Yes	<ul style="list-style-type: none"> Important access route for locals, visitors and maintenance and emergency services 	Local community	Maintain access to beach	Local	Low	Yes	Yes	F6

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective	At what scale is the benefit important?	Importance of the benefit	Is there enough of the benefit?	Can the benefit be substituted?	Rank
Lowestoft	North Lowestoft commercial properties	<ul style="list-style-type: none"> Potential loss of important industrial land and associated assets 	Yes	<ul style="list-style-type: none"> Significant industrial land use, infrastructure assets and strategically important economic sector of the town 	Regional and local economies, businesses, residents	Prevent loss of commercial properties to erosion	Regional	High	No	Yes	C2
	Infrastructure	<ul style="list-style-type: none"> Protection of sewage pumping station and headworks: gas mains and gas holder at Ness Point 	Yes	<ul style="list-style-type: none"> Pumping station and outfall essential components of town's drainage system. Gasholder essential for energy provision 	Local community, economy and residents	Prevent loss of/damage to Sewage and gas installations	Sub-regional	High	Yes	Yes	F3
		<ul style="list-style-type: none"> Potential loss or damage to local road network 	Yes	<ul style="list-style-type: none"> Important communication links 	Regional and local community, tourists	Maintain communication links within Lowestoft	Local	Low	Yes	Yes	F6
	Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites, accommodation and activities including major attractions, shops, holiday amenities, public open space and promenade and car parks 	Yes	<ul style="list-style-type: none"> Tourism forms the main part of the local economy Sites also of benefit to local residents 	Regional and local economies, businesses, residents and tourists	Prevent loss of tourist facilities to erosion	National	High	Yes	Yes	C2
	Lowestoft North Denes	<ul style="list-style-type: none"> Preservation of fishing nets heritage site 	Yes	<ul style="list-style-type: none"> Heritage site 	Local environmental interests	Prevent loss of heritage site to erosion	Local	Low	No	No	G5
		<ul style="list-style-type: none"> Open space indicated in Local Plan as needing protection 	Yes	<ul style="list-style-type: none"> Public amenity 	Local community & tourism	Prevent loss of public open space to erosion	Local	Low	No	Yes	R4
	Lowestoft Ness Point	<ul style="list-style-type: none"> Maintaining the area as mainland Britain's most easterly point 	Yes	<ul style="list-style-type: none"> The local authority is developing the area as a tourist attraction 	Local economies, businesses, residents and tourists	Prevent loss of Ness Point	Local	Low	No	No	G5
		<ul style="list-style-type: none"> Potential loss of County Wildlife site at Ness Point 	Yes	<ul style="list-style-type: none"> County wildlife status 	Local environmental interests	Maintain the existing habitats	Sub-regional	Medium	No	Yes	E4
	Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach 	Yes	<ul style="list-style-type: none"> Important recreational feature of the town 	Regional users and local community	Maintain a beach suitable for recreation purposes	Sub-regional	Low	No	Yes	R4
		<ul style="list-style-type: none"> Potential health and safety hazard caused by deteriorating groyne field 	No								
		<ul style="list-style-type: none"> Dredging of off-shore banks for marine aggregate 	No								

APPENDIX B: Summary statements for the 2 baseline cases

Summary for Baseline Case 1: 'No Active Intervention'

This summary report provides analysis of shoreline response conducted for the scenario of "No Active Intervention". This has considered that there is no expenditure on maintaining/ improving defences and that therefore defences will fail at a time dependent upon their residual life (see Defences Table) and the condition of the beaches.

Epoch 0-20 years (to 2025)

During this period there will be increased pressure on the coastline, with continued diminishing beaches along much of the shoreline.

The more substantial defences, such as seawalls and reefs will remain along the majority of frontages, but there will be failure of timber revetments and groynes during this period. Therefore at locations where defences have tended to slow erosion, there will be an initial acceleration in retreat rates. This will put increased stress on the remaining defences.

Where defences remain, beaches will narrow as exposure increases due to continued transgression of the coastal system and deeper nearshore areas. These areas will increasingly become promontories as adjacent areas retreat.

Along the undefended coast, it is expected that cliff erosion will continue at rates experienced over the past 20 years, although there are exceptions to this such as Happisburgh, where defences have recently failed. There will be increased input of sediment into the system, but it is expected that this will mainly result in maintaining rather than building beaches.

Along most sections breaches and tidal inundation will be averted due to defences remaining, but the probability of natural defences, such as at Newport and Winterton, being breached will increase. At Winterton and Great Yarmouth the beach and dunes are expected to continue their role as a natural defence.

Epoch 20-50 years (to 2055)

There will be increased pressure on the coastal system due to accelerating sea level rise. During this period many of the remaining seawalls will fail, accelerated by narrow beaches and increased exposure where these have previously been held in advanced positions. This will result in very rapid erosion at these locations, where shoreline position has been unnaturally held for over 120 years in some cases. The erosion is likely to remain rapid for 5 to 10 years before a position more commensurate with shoreline energy is reached, when rates more similar to those pre-defences, should continue. At a limited number of locations the seawall may remain. Here beaches are likely to disappear, as there will be deeper water and greater wave exposure at the seawalls. These conditions will not be conducive to beach retention and any sediment arriving on these frontages is likely to be rapidly transported offshore again.

Rock reefs and berms will continue to reduce wave energy at the shore and therefore slow erosion but these are likely to diminish in effectiveness during this period as sea levels rise, resulting in increased sediment transport behind reefs and increased energy at the backshore.

Along undefended sections, cliff and dune erosion will continue at rates slightly higher than those currently, due to sea level rise. This will release more material into the system, which will help maintain beaches.

A key change to the shoreline will occur along the Happisburgh to Winterton stretch, where failure of short stretches of defence will result in large-scale inundation of the Broadland area. This will also threaten the integrity of the remaining defences. Elsewhere, such as at Newport and Great Yarmouth there will also be increased risk of breach and inundation of low-lying areas.

Epoch 50-100 years (to 2105)

All defences will have failed or deteriorated by the end of this period. The rock reefs may still have an impact on wave energy, but this will be much diminished from the current situation.

The long-term picture is one of a more connected coastline, in a position more commensurate with shoreline energy. Along most of the shoreline there will be a more naturally functioning sediment transport system. There will however, still be continued shoreline retreat, in response to rising sea levels, despite input of sediment into the system from cliff retreat. At some locations, beaches may continue to narrow where cliff retreat is slower than the advancing sea level.

Where defences have remained up to the start of this period, the shoreline will extend several tens of metres seaward of the adjacent shoreline, therefore as defences fail there will be a very rapid recession as the shoreline attains a position more commensurate with shoreline energy. Along undefended stretches the cliff erosion will continue at accelerated rates due to sea level rise. The input of sediment should allow beaches to be maintained at the foot of the cliffs and to develop at retreated positions.

There is uncertainty over the final morphology of the Happisburgh to Winterton shoreline along the now frequently inundated Broadland area under this scenario, but it is possible that a beach ridge system will develop in a retreated position, allowing continued sediment transport to Winterton Ness.

Along other areas which front low-lying land there will be an increased risk of inundation with rising sea levels.

Summary for 'With Present Management' Scenario

This summary report provides analysis of shoreline response conducted for the scenario of "With Present Management". This has considered that all existing defence practices are continued, accepting that in some cases this will require considerable improvement to present defences to maintain their integrity and effectiveness and has taken account of the fact that some presently redundant structures do not form part of this existing defence management.

Epoch 0-20 years (to 2025)

Overall the picture is one of increased stress on the shoreline, with diminishing beaches and higher exposure to wave activity.

There will be a continuation of present day trends throughout the SMP area. As the coastal system continues to transgress, this will squeeze the intertidal zone as nearshore areas deepen and defences prevent natural landward movement of the shoreline. This problem will be exacerbated by the defence of much of the cliffline continuing to reduce the natural input of sediment to the beaches.

Stress on the coast will be greatest where there are seawalls, although under this scenario, there will be no loss of cliff to erosion in these areas and defended areas will remain protected. Elsewhere, other structures such as timber revetments only to limit the rate of cliff retreat. Historically it has been estimated that these reduce erosion rates by approximately one-third, and over this period it is expected that they will perform to a similar effectiveness. However, these structures have short remaining life spans and most will require replacement within this time period.

Along the undefended coast, it is expected that cliff erosion will continue at rates experienced over the past 20 years, although there are exceptions to this such as Happisburgh, where defences have recently failed. Breaches and tidal inundation would be averted under this scenario, but the probability of natural defences being occasionally breached, e.g. at Weybourne and Newport, is likely to increase. In other areas, such as Winterton and Great Yarmouth, where dunes provide a natural defence little change to the present situation is expected.

Epoch 20-50 years (to 2055)

During the period 20 to 50 years, the stress on the coast will have reached levels where a naturally functioning system will have begun to break down.

Along this coastline, a number of promontories will be forming, where defended stretches are adjacent to non-defending stretches, which are continuing to retreat. These promontories will begin to inhibit sediment transfer between areas.

Due to defences, along much of the shoreline, the natural retreat of the shoreline will be inhibited, therefore beaches will have narrowed and lowered considerably; in some areas they will have disappeared altogether. This will be exacerbated by accelerated sea level rise; without the ability of the shoreline to respond by moving landward, there will be deeper water and greater wave exposure at the seawalls. These conditions will not be conducive to beach retention and any sediment arriving on these frontages is likely to be rapidly transported offshore again. This will also increase the vulnerability of these defence structures and more frequent work to maintain their integrity will be required, to prevent erosion and maintain the shoreline in its present position.

The constraints imposed by the timber revetments and other erosion-reducing structures are also likely to result in some beach narrowing. The rate of retreat in these areas is likely to increase as a result of sea level rise and limited sediment supply. Timber revetments and groynes will need to be reconstructed in retreated positions when they fail, to reflect this shoreline movement, so they do not become isolated and ineffective.

Along undefended sections of coastline, erosion of the cliffs will accelerate, in response to sea level rise. Breaches and tidal inundation of defended flood risk areas would be averted, under this scenario, although natural defences, e.g. at Weybourne and Newport, are likely to be frequently breached. In other naturally defended areas such as Winterton and Great Yarmouth, there is some uncertainty over the mobility of the beach and dune systems, but it is not expected that there will be any risks imposed by such movement as these systems will remain wide and healthy.

Epoch 50-100 years (to 2105)

The long-term picture is one of a very fragmented shoreline, characterised by a series of concreted headlands and embayments. The natural movement of sand and shingle sediment will have been seriously interrupted and there is potential for more of this beach-building material to be washed offshore.

Seawalls will have created a series of large promontories, in many cases extending 100-200m out from the adjacent eroded shoreline. These promontories will be highly exposed to waves in deeper water, requiring much more substantial defences to be constructed. These defences would also need to be extended landward to prevent outflanking of the present seawalls. There will be no beaches present along these frontages and the groynes will have become redundant.

These prominent areas will also act as a series of terminal groynes upon beach sediment transport, effectively eliminating the exchange of sand or shingle alongshore throughout much of the SMP area. As such, these may help to stabilise beaches on their up-drift side, but will also probably exacerbate erosion down-drift. The deeper water at these headlands is expected to result in any sediment reaching these points being deflected offshore rather than moving down the coast.

The rate of cliff retreat in the areas between these promontories is expected to increase as sea level continues to rise. This applies both to areas that are undefended, and to those that have erosion-reducing structures in place. Frequent rebuilding of the timber revetment and groynes is to be expected to accommodate greater exposure and failure, and necessary relocation as the shoreline retreats. This increased sediment supply locally, together with the trapping effect of the promontories, will help to retain the beaches in these areas, although these are not expected to be substantial bodies of sand.

Breaches and tidal inundation of defended flood risk areas would continue to be averted under this scenario, although much more substantial seawalls would be required, as beaches will not be retained in front of these structures. The effectiveness of the natural defences at Weybourne and Newport will progressively reduce. In other naturally defended areas such as Winterton and Great Yarmouth, there may be some deterioration of the beach and dune systems, but the size of these systems suggest that this is unlikely to produce any significant flood or erosion risks.