

Appendix 2.1 – Stakeholder Engagement

Kelling to Lowestoft Ness Shoreline Management Plan

Appendix B: Stakeholder Engagement

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B1 Introduction

A three level approach was adopted:

- Level 1: the Client Steering Group (CSG) (see [Appendix A](#) for details)
- Level 2: an Extended Steering Group (ESG)
- Level 3: additional stakeholders.

Elected Members were also consulted at the Draft SMP Stage.

The aim of the ESG was to act as a focal point for discussion and consultation throughout development of the SMP, and members of the ESG were involved in a series of workshops throughout the SMP development and also consulted through written correspondence. Additional stakeholders were consulted at the start of the SMP in order to gather information and views on issues along the SMP coastline. Table B1.1 below outlines the strategy adopted in terms of when and how stakeholders were involved.

Table B1.1 Summary of the Stakeholder Strategy

Stage of Plan Preparation	Activity	Dates	Purpose of stakeholder involvement	Stakeholders involved	Method of involvement	Information Sent
Stage 1: Scope SMP	Initial Stakeholder contact	May – July 2003	<ul style="list-style-type: none"> • Inform interested parties that an SMP is being prepared • Request information • Gather views on issues relating to the SMP coast • Invite chosen stakeholders to become involved in ESG • Identify additional ESG members and stakeholders 	ESG and additional stakeholders (see lists)	Letter and Questionnaire (different letters sent to different groups) Follow-up telephone calls	See Section B3 for sample letter and questionnaire.
	Initial ESG meeting	June 2003	<ul style="list-style-type: none"> • Involve ESG members at early stage and inform them that an SMP is being prepared and explain their involvement 	ESG	Round-table meeting	
Stage 2: Assessments to support policy	Draft Issues Table	September 2003	<ul style="list-style-type: none"> • ESG members asked to: <ul style="list-style-type: none"> - 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 	ESG	Table and accompanying note sent by email and/or post	See Section B4 for Issues Table
	Draft Issues and Objectives Table	November 2003	<ul style="list-style-type: none"> • ESG members asked to: <ul style="list-style-type: none"> - Check objectives set and ranking - Review information prior to ESG meeting 	ESG	Table sent as part of briefing note by email and/or post	See Section B4 for Briefing note
Stage 3: Policy Development	ESG Workshop	November 2003	<p>The objectives of the workshop were to establish:</p> <ul style="list-style-type: none"> • The vision(s) of the various stakeholders for the whole SMP shoreline over each epoch • 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 	ESG	<p>Briefing note sent out prior to meeting explaining role of meeting.</p> <p>Meeting involved a formal presentation followed by a number of round-table discussion sessions.</p> <p>Summary note sent out following meeting</p>	See Section B4 for Workshop summary note

Stage of Plan Preparation	Activity	Dates	Purpose of stakeholder involvement	Stakeholders involved	Method of involvement	Information Sent
			of future change		summarising key conclusions.	
	ESG Workshop	March 2004	<ul style="list-style-type: none"> ESG members presented with the policy options examined and invited to take a role in steering policy decisions along the coast. 	ESG	<p>Briefing note sent out prior to meeting explaining work to date on developing policies and role of meeting.</p> <p>Meeting involved a formal presentation followed by a number of round-table discussion sessions.</p>	See Section B4 for Briefing note and Workshop summary note
	Members meeting	May 2004	<ul style="list-style-type: none"> Members presented with the policy options examined and invited to take a role in steering policy decisions along the coast. 	Representatives from the Local Authority councils and Broads Authority (see list)	Presentation followed by open floor discussion session.	See Section B5 for Meeting summary note
	Members Workshop	September 2004	<ul style="list-style-type: none"> Held as part of the joint Defra, EA, EN and NNDC funded project: Managing Coastal Change. 	NNDC Members	Presentation followed by open floor discussion session.	-
	General workshop	October 2004	<ul style="list-style-type: none"> Held as part of the joint Defra, EA, EN and NNDC funded project: Managing Coastal Change. 	General stakeholders	Presentation followed by open floor discussion session.	-
Stage 4: Public Examination	Public Consultation	December 2004 – April 2005	<ul style="list-style-type: none"> To make stakeholders aware of the draft plan To provide stakeholders with opportunities for support and objection and moving to resolve differences 	Wider public	Manned exhibitions at four locations. Draft Plan made available both on-line and at Local Authority offices.	See Section B6 for 'Consultation Report' and 'Response to Consultation Report'
Stage 5: Finalise SMP		December 2005 – July 2006	<ul style="list-style-type: none"> Review output from public examination and amend draft SMP as appropriate Produce Action Plan 	CSG		-
Stage 6: SMP Dissemination			<ul style="list-style-type: none"> To make stakeholders aware of the final plan and implementation of the plan 	Wider public	Dissemination and updates via ACAG website	-

B2 Membership Lists

B2.1 EXTENDED STEERING GROUP (ESG)

The ESG involved a select number of individuals with an interest in the preparation of a SMP or those likely to be affected by the SMP policies. Members of the ESG were selected through discussion with the CSG, comprising the Local Authorities, the Environment Agency, English Nature and Defra (see [Appendix A](#) for CSG membership).

During the Initial Stakeholder Engagement exercise these individuals were invited to become members of the ESG, with the understanding that this would require greater involvement in the SMP preparation including attendance at meetings and reviewing documents. Only one group contacted declined the invite; Eastern Sea Fisheries Joint Committee. Not all members of the ESG were able to attend all of the ESG meetings/workshops. Through the course of the SMP development and the close links with the Happisburgh to Winterton Strategy Review it was necessary to invite additional members to join the ESG, namely: Ms Helen Deavin (RSPB), Ms Julia Masson (Broads Authority), Ms Patricia Rowe (Sea Palling Parish Committee), Mrs B Buxton (Horsesey Parish Council) and Mrs S Weymouth (Winterton and Somerton Parish Council).

The Table below records information sent to ESG members and attendance at the various meetings:

Name	Organisation	Sent Initial Engagement documents (Number in brackets refers to letter type sent)	Attended ESG Meeting (June 03)	Sent Draft Issues and Objectives Table (Oct 03)	Attended ESG Workshop (Nov 03)	Attended ESG Workshop (Mar 04)
Cllr D Corbett	Bacton Division	Yes (1)	Yes	Yes	Yes	Yes
Ms Julia Masson	Broads Authority	Contacted a later stage		Yes (sent Dec 03)		Yes
Cllr Tony Overill	Caister-on-Sea Parish Council	Yes (1)		Yes	Yes	Yes
Mr Paul Long	County Land and Business Association	Yes (1)		Yes		Yes ¹
Mr Terry W Morris	Corton Parish Council	Yes (3)		Yes	Yes	Yes
Mr Roger Bell	Waveney DC	Yes (1)		Yes		Yes
Mr Peter Murphy	English Heritage	Yes (1)	Yes ²	Yes	Yes	Yes
Mr Peter Docktor	Environment Agency (EA)	Yes (1)		Yes		
Mr Stan Jeavons	EA	Yes (1)		Yes		
Ms Karen Thomas	EA	Yes (1) ³		Yes		
Mr Ian Dodson	EA	Yes (1)	Yes	Yes		

¹ Michael Sayer attended the ESG meeting in place of Mr Paul Long

² Philip Walker, English Heritage attended the ESG meeting in place of Mr Peter Murphy.

³ Ms Karen Thomas replaced Jane Rawson as an ESG member, although Jane Rawson continued to have indirect involvement

Name	Organisation	Sent Initial Engagement documents (Number in brackets refers to letter type sent)	Attended ESG Meeting (June 03)	Sent Draft Issues and Objectives Table (Oct 03)	Attended ESG Workshop (Nov 03)	Attended ESG Workshop (Mar 04)
Mr Paul Mitchlemore	EA	Contacted at later stage at request of G Cooper				Yes ⁴
Mr Robin Buxton	Flood Defence Committee		Yes	Yes	Yes	Yes
Mr Paul Houghton	Great Yarmouth BC	Yes (1)	Yes	Yes	Yes	
Mr Mike Dowling	Great Yarmouth BC	Yes (1)		Yes		Yes
Cllr Steve Chilvers	Gunton and Corton Ward	Yes (1)		Yes	Yes	
Mrs B Buxton	Horsey Parish Council	Contacted February 2004				
Mr Paul Hammett	National Farmers Union	Yes (1)		Yes		
Mr John Sizer	National Trust ⁵	Yes (1)		Yes	Yes	
Mr Tim Venes	Norfolk Coast Project	Yes (1)	Yes	Yes	Yes	Yes
Ms. Heidi Mahon	Norfolk County Council	Yes (1)	Yes	Yes	Yes	Yes ⁶
Mr John Hiskett	Norfolk Wildlife Trust	Yes (1)	Yes	Yes	Yes	Yes
Mr Steve Baker	North Norfolk District Council	Yes (1)		Yes		
Mr Brian Farrow	North Norfolk District Council	Yes (1)	Yes	Yes	Yes	Yes
Mr Ian Loughran	Phillips Petroleum, Bacton Gas Terminal	Yes (1)		Yes		
Ms Helen Deavin	Royal Society for the Protection of Birds	Yes (2)		Yes (sent Dec 2003)		Yes
Prof. Tim O'Riordan	University of East Anglia	Yes (1)		Yes	Yes	Yes ⁷
Ms Patricia Rowe	Sea Palling Parish Committee	Contacted February 2004				Yes ⁸
Cllr B J Hannah	Sheringham Division	Yes (1)		Yes	Yes	Yes
Mr Adam Nicholls	Suffolk County Council	Yes (2)		Yes		
Ms Dorothy Casey	Suffolk Wildlife Trust	Yes (2)		Yes		
Mrs S Weymouth	Winterton and Somerton Parish Council	Contacted February 2004				Yes

⁴ Meeting attended by Mr Tony Goodwin of the EA Broadland Flood Alleviation Project

⁵ Formerly North Norfolk District Council

⁶ Mr Phil Bennett-Lloyd attended in place of Heidi Mahon

⁷ Ms Jessica Milligan attended in place of Prof Tim O'Riordan

⁸ Ms Patricia Rowe accompanied by Mr Malcolm Weston

B2.2 ADDITIONAL STAKEHOLDERS

The following Table indicates additional stakeholders contacted during the Initial Stakeholder Engagement stage: all these received the letter and questionnaire explaining that a SMP was in progress and requesting data and further information (see Section B3 for sample letters and questionnaire).

Name	Organisation
Mr Edwin Rose	Norfolk Landscape Archaeology
Mr Ivan Large	North Norfolk Fisherman's Society
Mr Robert Carr	Archaeological Service Suffolk County Council
Mrs Judith Stoutt	Eastern Sea Fisheries Joint Committee
Mr Steve Millward	CEFAS
Mr David Vose	Countryside Agency - East of England Region
Ms. Angi Doy	Norfolk Chamber of Commerce & Industry
Ms Linda Thornton	Lowestoft & Waveney Chamber
Mr Ken Stone	Suffolk Chamber of Commerce
Mr David Tye	Defence Estates (East)
Ms. Jacqueline Gray	Crown Estate - Marine Estates
Mr Ben Hornigold	King's Lynn Consortium of Internal Drainage Boards
Mr Howard Richings	RNLI
Mr Peter J Mountfield	Sheringham Golf Club
Mr R Fields	Royal Cromer Golf Club
Mr M J Peck	Great Yarmouth & Caister Golf Club
Mr M J Woodhouse	Gorleston Golf Club
	Highways Agency (Suffolk & Norfolk)
	Marine and Coast Guard Agency
Ms Corrine Meakins	Council for the Protection of Rural England - Regional Policy Officer
Mr Harold Eatock	Confederation of British Industry
Mr Ken Hunt	Unilever Ice Cream & Frozen Food Ltd
	Anglian Water
Mr Eric Brandle	National Grid Transco
Mr William Robertson	Essex and Suffolk Water Company
Chris Hummond	Government Office for the East of England
Mr Lesely Humphries	East English Tourist Board
Mr Rob Dryden	Fisheries, Recreation and Biodiversity Team, EA

Andrew Hunter	Environment Agency
Jim Long	AONB Partnership Coastal Parish Rep
Keith Harrison	AONB Partnership Coastal Parish Rep

B2.3 MEMBERS

It was decided that prior to the Draft Shoreline Management Plan being released to the public, a meeting was necessary to inform elected members of the relevant Local Authorities, representatives from the Environment Agency Local Flood Defence Committee and Broads Authority and other selected representatives of the key conclusions of the SMP. This meeting was held on 18 May 2004 at the County Hall, Norwich. The summary note is included in Section B4. The Table below shows those invitees and attendees to the meeting.

Name	Organisation	Attended Meeting on 18 May 2004
Cllr B Cabbell Manners	North Norfolk DC	
Cllr G Jones	North Norfolk DC	
Cllr J Savory	North Norfolk DC	
Cllr D Corbett (Chairman)	North Norfolk DC	
Cllr Mrs H Nelson	North Norfolk DC	Yes
Cllr C Stockton	North Norfolk DC	
Cllr H Cordeaux	North Norfolk DC	Yes
Cllr W Northam	North Norfolk DC	Yes
Cllr Mrs S Stockton	North Norfolk DC	Yes
Cllr Mrs M Craske	North Norfolk DC	
Cllr D Platton	North Norfolk DC	
Cllr J Sweeney	North Norfolk DC	
Cllr B Crowe	North Norfolk DC	Yes
Cllr Mrs S Pointer	North Norfolk DC	
Cllr Mrs A Tillett	North Norfolk DC	Yes
Cllr C Fenn	North Norfolk DC	
Cllr L Randall	North Norfolk DC	
Cllr Mrs J Trett	North Norfolk DC	
Cllr B Hannah	North Norfolk DC	
Cllr N Ripley	North Norfolk DC	Yes
Cllr Mrs S Willis	North Norfolk DC	
Cllr J P F Sweeney	North Norfolk DC	
Cllr J Turner	North Norfolk DC	
Cllr Miss J A Thompson	North Norfolk DC	
Cllr C Stockton	North Norfolk DC	
Cllr Mrs S M Pointer	North Norfolk DC	
Cllr Mrs H T Nelson	North Norfolk DC	
Cllr P W Moore	North Norfolk DC	
Cllr M R E Birch	North Norfolk DC	
Cllr Mrs M A Craske	North Norfolk DC	

Name	Organisation	Attended Meeting on 18 May 2004
Cllr S J Partridge	North Norfolk DC	Yes
Mr P Frew	North Norfolk DC	
Mr B Farrow	North Norfolk DC	
Mr M Pettifer	North Norfolk DC	
Mr S Baker	North Norfolk DC	
Mr G Watson	North Norfolk DC	
Mr A Groom		Yes
Mr T Venes	Norfolk Coast Partnership	Yes
Mr G Sayers		
Mrs D Lattaway	Maritime Partnership	
Dr I Shepherd		
Mr I Large		
Mr T Aberdein		
Mr J M Lingwood		
Viscount Coke		
Mrs S Kingham	Clerk, Wells T.C.	
Mr D Venvell		Yes
Cllr P Austin	Waveney DC	
Cllr W Mawer	Waveney DC	Yes
Cllr S Chilvers	Waveney DC	Yes
Cllr B Hunter	Waveney DC	Yes
Cllr D Jermy	Waveney DC	
Cllr M Rudd	Waveney DC	Yes
Cllr A Shepherd	Waveney DC	Yes
Mr J Walker	Waveney DC	
Mr H Cator DL	EA LFDC	Yes
Mr R Buxton	EA LFDC	
Mr P.D Papworth	EA LFDC	
Mr D.R.H Price	EA LFDC	
Mr J Sharpe	EA LFDC	
Cllr S.A Cullinham	EA LFDC	Yes
Cllr N.G Chapman	EA LFDC	
Cllr B.J Hannah	EA LFDC	
Mr R.C Rockcliffe	EA LFDC	
Mr J.A Sheppard	EA LFDC	Yes
Mrs R. Leeder	EA LFDC	
Mr J Wortley	Environment Agency	
Ms J Cooper	Environment Agency	Yes
Mr J Wortley	Environment Agency	Yes
Ms N Temple-Cox	Environment Agency	Yes
Mr S Barlow	Environment Agency	Yes
Mr S Jeavons	Environment Agency	Yes
Mr S Hayman	Environment Agency	Yes
Ms C Johnson	Broads Authority	Yes
Ms G Morgan	Broads Authority	Yes

Name	Organisation	Attended Meeting on 18 May 2004
Ms J Masson	Broads Authority	Yes
Mr M Green	Broads Authority	Yes
Mr P Tallowin	Broads Authority	Yes
Dr M Gray	Broads Authority Member	Yes
Mr F Devereux	Broads Authority Member	Yes
Mr J Swainson	Broads Authority Member	Yes
Cllr S Weymouth	Gt. Yarmouth BC	Yes
Mr J Hemsworth	Gt. Yarmouth BC	Yes
Mr B Harris	Gt. Yarmouth BC	Yes
Mr M Dowling	Gt. Yarmouth BC	Yes

B3 Initial Stakeholder Engagement Materials

The Initial Stakeholder Engagement 'pack' sent out included:

- An invitation letter (3 variations were produced)
- Background text including a map of the Plan area
- A Questionnaire
- The initial Issues Table (enclosed with letters 1 and 2 only)
- The list of proposed consultees (enclosed with letter 1 only)

Three variations of the invitation letter were produced for each level of stakeholder (although it should be noted that a couple of stakeholders changed level through the SMP development):

Letter 1 - Organisations on the Extended Steering Group.

Letter 2 - Other organisations or businesses who may not be familiar with SMPs but to whom a more formal approach should be made.

Letter 3 - The general public, individual landowners and small businesses that need to have the SMP process explained to them.

B3.1 SAMPLE INVITATION LETTER 1

Dear

Shoreline Management Plan - From Weybourne, Norfolk to Lowestoft Ness Point, Suffolk (Sub-Cell 3B)

Further to my letter of 27 January 2003, when I invited you to participate in the Extended Steering Group overseeing the preparation of the SMP, (a further copy is attached for your information), I am writing to confirm that the review of the Weybourne to Lowestoft Ness Point (Sub-Cell 3B) Shoreline Management Plan (SMP) is now underway. North Norfolk District Council acting as Lead Authority on behalf of the Anglian Coastal Authorities Group has commissioned the Halcrow Group to prepare the revised plan to cover the next 50 to 100 years period.

It is essential that the revised plan adequately deals with the issues and concerns of the communities, businesses and organisations having an interest in this part of the coast and that the Consultants base their work on the best information available to them. For these reasons I am writing to invite to the next meeting of the Extended Steering Group to be held at 10am at the North Norfolk District Council offices in Cromer. I anticipate that the meeting will finish by lunchtime after which there will an opportunity for you to discuss any particular points of concern or interest with the consultants.

Attached to this letter are:

- A further copy of the original invitation letter of 27 January 2003.
- Background information about the SMP.
- A questionnaire which allows you to indicate your areas of interest, the form and type of information you may hold appropriate to the study of the coastline and the future contact arrangements I should make with your organisation.
- A table of the issues identified to date (see the background text for an explanation of the format of this table).
- A map the Plan area.
- The list of consultees.

I should be pleased if you would complete and return to Halcrow the enclosed questionnaire together with any new information to be added to the table of issues before the next meeting on 12th June.

Yours sincerely

Gary Watson

Secretary to the 3B Sub-Cell Group of the Anglian Coastal Authorities Group.

B3.2 SAMPLE INVITATION LETTER 2

Dear

Shoreline Management Plan - From Weybourne, Norfolk to Lowestoft Ness Point, Suffolk (Sub-Cell 3B)

I am writing to inform you that the review of the Weybourne to Lowestoft Ness Point (Sub-Cell 3B) Shoreline Management Plan (SMP) is now underway. North Norfolk District Council acting as Lead Authority on behalf of the Anglian Coastal Authorities Group has commissioned the Halcrow Group to prepare the revised plan to cover the next 50 to 100 years period.

The Council is undertaking this work on behalf the North Norfolk, Great Yarmouth and Waveney District Councils, English Nature and the Environment Agency who have responsibilities for managing the coastline between Weybourne and Lowestoft Ness Point.

The coastline of England and Wales is undergoing constant change from the effects of waves and tidal currents. The amount of physical change depends on the degree of exposure of each length of coast and the predominant geology. These change processes have usually taken place over long historical periods and many examples exist where settlements have been lost through erosion or where former coastal villages are now landlocked because of coastal build up.

Another influence on the development of the coastline has been the human intervention throughout the ages, particularly in attempts to arrest the effect of erosion or flooding at particular locations. In many cases this has taken place without an acknowledgement of the effect on other locations up and down the coast of carrying out these works.

Whilst these changes continue to take place social, economic and environmental pressures are increasing in the coastal zone. People enjoy living by and visiting the coast and the pressure for more housing is ever present. As international trade increases, so does the demand for port space and associated coastal-based industry. Such development often places stress on natural coastal habitats which are often unique and of national and international importance.

The purpose of a Shoreline Management Plan is to provide a large-scale assessment of the risks associated with coastal processes and to present a policy framework to reduce these risks to people and the developed, historic and natural environment in a sustainable way. It determines the natural forces which are sculpting the shoreline and predicts, so far as it is possible, the way in which it will be shaped into the future. The plan then goes on to identify the main issues of concern relating to erosion, flood risk and management of these natural processes. These issues will be obtained from those with an interest in the coast, be it as residents, businesses or those with a concern for the natural and built heritage. The issues are then brought together to determine the policies which should be applied to allow society's objectives to be achieved in full acknowledgement of the potential impact on the natural environment and the likely environmental, financial and social cost involved.

The policies to be considered are those defined by the Department for Environment, Food and Rural Affairs. These are:

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

As your organisation has an interest in this coastline I would appreciate your help in providing any appropriate information, which you may hold and will improve the data on which the plan is prepared. I would like to learn about those issues which you would want to see being addressed in the plan and any other comments which you feel the Coastal Authorities should be aware of during the preparation of the plan. For these reasons I have attached to this letter:

- Further background information about the SMP.
- A questionnaire which allows you to indicate your areas of interest, the form and type of information you may hold appropriate to the study of the coastline and the future contact arrangements I should make with your organisation.
- A table of the issues identified to date (see the background text for an explanation of the format of this table).
- A map the Plan area.

I should be pleased if you would complete and return to Halcrow the enclosed questionnaire together with any new information to be added to the table of issues before the end of June.

Yours sincerely

Gary Watson

Secretary to the 3B Sub-Cell Group of the Anglian Coastal Authorities Group.

B3.3 SAMPLE INVITATION LETTER 3

Dear

Shoreline Management Plan - From Weybourne, Norfolk to Lowestoft Ness Point, Suffolk (Sub-Cell 3B)

I am writing to ask if you will participate in the consultation for the preparation of the Revised Shoreline Management Plan for the coast between Weybourne and Lowestoft Ness Point.

North Norfolk District Council acting as Lead Authority on behalf of the Anglian Coastal Authorities Group has commissioned the Halcrow Group to prepare the revised plan to cover the next 50 to 100 years period. The Council is undertaking this work on behalf the North Norfolk, Great Yarmouth and Waveney District Councils, English Nature and the Environment Agency who have responsibilities for managing the coastline between Weybourne and Lowestoft Ness Point.

The plan is the means by which these organisations determine the best way to look after the coast in a sustainable way for the next 50 – 100 years. It is prepared using guidelines set down by the Department for the Environment, Food and Rural Affairs which is the Government Department having responsibility for setting national policy for defence of the coastline.

The plan identifies the main coastal processes – the tidal currents, wave action and movement of beach and seabed materials – which shape the coastline. Through consultation, the various land uses are identified. These include residential and commercial areas, sites of important natural or landscape importance and features, such as the beaches, which might be important for the local tourism economy. Each such area is assessed for its risk from erosion or flooding.

Again through consultation, the main issues relating to erosion and flood risk, and which affect local communities are set out. These are compared with what is known about the coastal processes, the economics of maintaining or providing new defences and the need to seek sustainable methods of managing the coast in the future. From this assessment a number of objectives for the coast are prepared. Another stage for consultation in preparing the plan is to gauge people's reaction to these objectives.

The objectives are then tested against a number of policy options for each section of the coastline within the plan area. The policies to be considered are those defined by the Department for Environment, Food and Rural Affairs. These policies are:

- Hold the existing defence line
- Advance the existing defence line
- Managed realignment – identifying a new line of defence, usually to the rear of the existing defence line
- No active intervention – a decision not to invest in providing or maintaining defences.

From this analysis a preferred policy for each length of coast is proposed and, once again, it will be important to gauge the response from the community.

As you have an interest in this coastline I would appreciate your help in providing any appropriate information, which you may hold and will improve the data on which the plan is prepared. I would like to learn about those issues which you would want to see being addressed in the plan and any other comments which you feel the Coastal Authorities should be aware of during the preparation of the plan. For these reasons I have attached to this letter:

- Further background information about the SMP.
- A questionnaire which allows you to indicate your areas of interest, the form and type of information you may hold appropriate to the study of the coastline and the future contact arrangements I should make with your organisation.
- A map of the Plan area.

I should be extremely grateful if you would complete and return the enclosed questionnaire to Halcrow by the end of June.

Yours sincerely

Gary Watson

Secretary to the 3B Sub-Cell Group of the Anglian Coastal Authorities Group.

B3.4 BACKGROUND TEXT

SHORELINE MANAGEMENT PLAN 3B: WEYBOURNE TO LOWESTOFT

(a) Shoreline Management Plans

Shoreline Management Plans (SMPs) are policy documents for coastal defence. Work is about to commence on updating the SMP for **Area 3b**, which covers the shoreline from the **start of the cliffs at Weybourne to Lowestoft Ness Point**.

The document will be a review and update of the SMP produced in 1995/6 to take account of:

- Latest studies (e.g. the Southern North Sea Sediment Transport Study, Futurecoast)
- Issues identified by most recent defence planning (i.e. six coastal defence strategy plans which have now been produced to cover most of the SMP area between Cromer and Lowestoft)
- Changes in legislation (e.g. European Union Habitat Directive)
- Changes in national defence planning requirements (e.g. the need to consider 100 year timescales in future planning, modifications to economic evaluation criteria).

The aim of the SMP is “*to promote sustainable management policies, for a coastline for the 22nd century, which achieve objectives without committing to unsustainable defences*”. Key to promoting robust and sustainable management policy is the derivation of agreed objectives for each section of coast, based upon the identification of issues, which requires input from stakeholders. Issues, objectives, and thus policy and management requirements, are to be considered for 3 main epochs: 0 to 20 years, 20 to 50 years and 50 to 100 years. Policy can differ over these timescales.

The purpose of the Plan will be to assign one of the policies defined by the Department for Environment, Food and Rural Affairs (Defra) to each section of the coast within the plan area. These policies are:

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

(b) Management Structure for Developing the Plan

The structure of the management group responsible for managing the SMP review process is based on one of four models recommended in the Defra Procedural Guidance for the Production of SMPs. It is made up of the following elements:

- An Extended Steering Group – comprising representatives of national, regional and local organisations with a key interest in the SMP outcome. To date, 26 representatives have been identified and invited to join the group. The attached list gives details. The key roles of this group will be to agree the overall scope of the SMP; to act as focal point for all stages of consultation; to agree and prioritise the issues and objectives to be dealt with by the SMP; to resolve disputes and agree on the policies to be contained within draft SMP.
- A Client Management Group – comprising officers from the maritime local authorities (North Norfolk, Great Yarmouth and Waveney), the Environment Agency, English Nature and the Department for Environment Food and Rural Affairs (DEFRA). This group will provide the

Client expertise in deciding the scope and extent of the SMP, and will cover engineering, planning and conservation disciplines.

- Other stakeholders will be contacted individually.

(c) Stakeholder involvement

As the SMP is a statement of policy, those affected by its policies should be able to participate in the plan-making process and make representation. Therefore, the aim of this initial communication is to engage stakeholders early in the SMP process and in particular to help identify the issues. Recipients can assist by adding to the information by completing the attached questionnaire and by assisting to develop the enclosed tables to:

- Identify **features**
- Identify any **issues** associated with the feature (which should include timescales)
- Describe why the feature is important, i.e. identify the **benefit**
- Identify the **beneficiaries**, i.e. who actually benefits from the feature in question.

Development of the SMP will continue until December 2003. Further consultation with stakeholders is planned for early 2004, when the defence policy proposals will be discussed.

(d) The SMP area

The administrative regions of North Norfolk District Council, Great Yarmouth Borough Council and Waveney District Council cover the SMP area. Residential dwellings within towns and many villages occupy much of the immediate shoreline. Primary industries in this area are agriculture, commercial fishing, Bacton Gas Terminal and the ports at Great Yarmouth and Lowestoft. In part because of its "*natural character*", the area is popular for visitors, and tourism is extremely important to the local economy. The area is also of national importance in terms of the natural environment and conservation and the majority of the coast is covered by designations that recognise this value, including Special Protection Areas, Special Areas of Conservation, the Norfolk Coastal Area of Outstanding Natural Beauty, National Nature Reserves, and Sites of Special Scientific Interest.

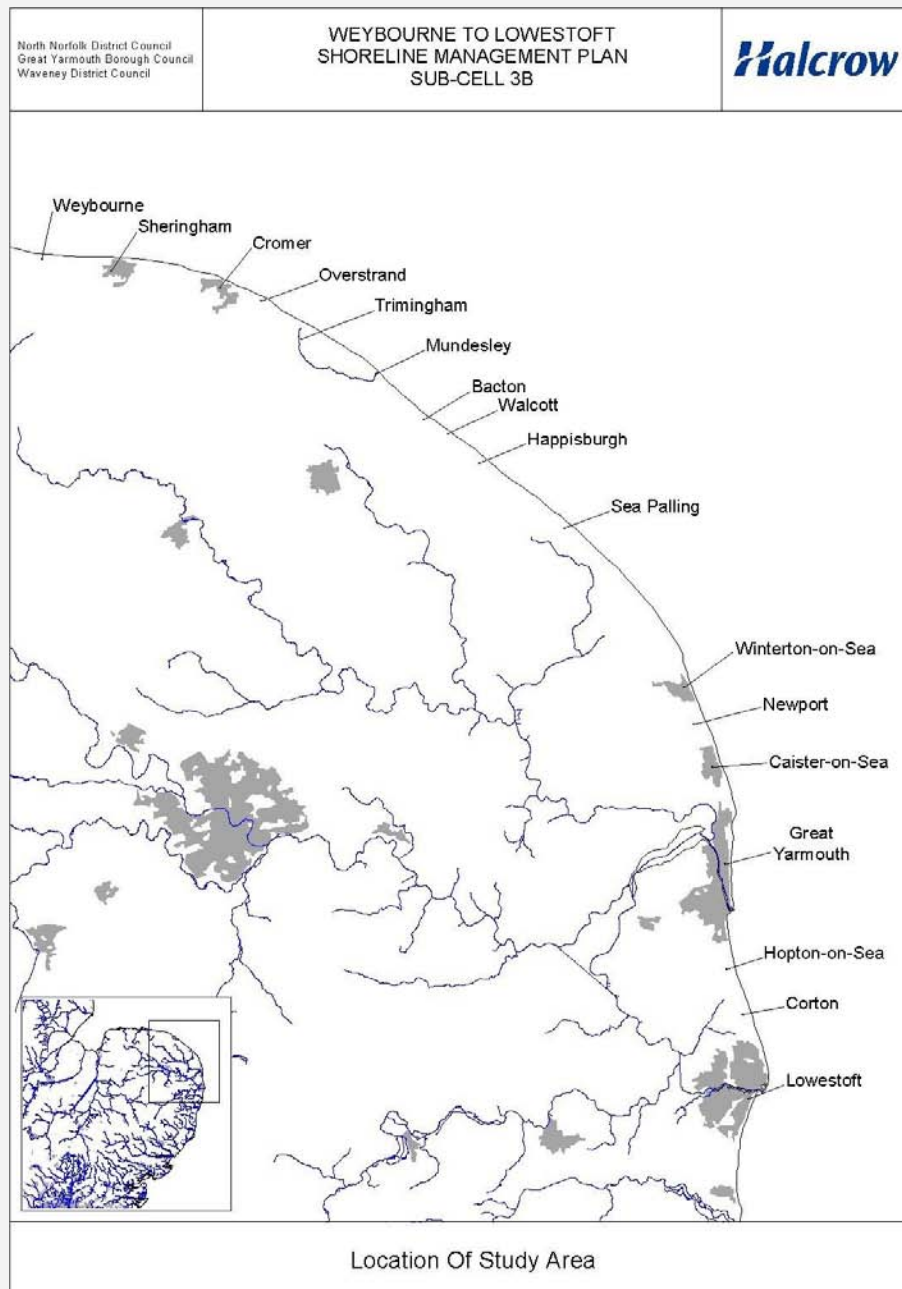
This coast has been retreating for the last 10,000 years, and the majority of the shoreline continues to do so. Cliffs along this shoreline are soft and easily eroded, e.g. between Weybourne and Happisburgh, Newport to Caister and Gorleston to Lowestoft; this has resulted in considerable loss of land, including villages and small towns, over the past centuries. Sand and shingle supplied by the cliffs feeds the beaches over a large area, with the North Norfolk cliffs reputedly supplying material to beaches as far south as Lowestoft.

Many areas are also low-lying and potentially prone to flooding from the sea (e.g. between Happisburgh and Newport and between Caister and Great Yarmouth). The most significant event in recent times was the 1953 floods, when a breach through the dunes at Sea Palling resulted in significant flooding and loss of life. This was not, however, a unique occurrence; there have been inundations of these low-lying areas throughout history.

Due to the importance of the coast for various industries and activities there have been attempts to halt or reduce this erosion trend and reduce the risk of flooding. Most of the towns and villages are now defended and the shoreline position has been held for several decades. Along much of this shoreline this has resulted in narrowing beaches and defences have become more difficult to sustain; the beaches are very volatile and during storms it is common for the beach levels to drop considerably. With predicted changes in climate over the next century, the risks of erosion and flooding and the difficulties, associated with protecting against these hazards, are likely to increase.

The need for strategic planning is therefore clear; whilst there is a need to defend against coastal erosion in some areas, the need to preserve a natural coast is necessary elsewhere. Sand and shingle eroded from cliffs is also important for maintaining beaches to increase protection both locally and downdrift. The role of the SMP is to find a balance between these various demands on the coast

and to identify how these can be most effectively managed through the adoption of particular shoreline management policies. It is therefore important that the issues and objectives, which will drive the policy decisions, are identified at the outset.



B3.5 QUESTIONNAIRE TO STAKEHOLDERS

FIRST REVIEW OF THE WEYBOURNE, NORFOLK TO LOWESTOFT NESS POINT, SUFFOLK SHORELINE MANAGEMENT PLAN

Please answer the following questions and return the completed questionnaire by to Halcrow, Burderop Park, Swindon, Wiltshire SN4 0QD, who are the consultants undertaking the review of the Shoreline Management Plan on behalf of the 3B Sub-Cell of the Anglian Coastal Authorities Group.

I would appreciate your return of the questionnaire even if you do not wish to comment on the Shoreline Management Plan.

CONTACT DETAILS

- 1 Name of your organisation or business
- 2 Address
- 3 Name of contact
- 4 Position in organisation
- 5 Address if different from 2
- 6 Telephone No
- 7 Fax No.
- 8 E-mail address
- 9 Referring to the attached list of consultees – are there any other stakeholders that you would recommend we contact?

INFORMATION

Please let me know if you hold any of the following information, if so, in what format it is held and if you are willing to make it available to the Project Team.

Description (Please give brief details in the space provided. If there is insufficient space, please continue on a separate sheet of paper labelled with the question number.)	Format		Availability	
	Hard Copy	Digital	Yes	No
10 A map of your premises, site(s) or showing your area of interest				
11 Any information or data about local coastal processes including photographs				

12	Study reports about coastal processes				
13	Flooding and erosion events				
14	Design and construction of existing coastal defences				
15	Reports relating to the natural environment and ecology				
16	Reports relating to the built environment				
17	Land use mapping				
18	Coastal Industries				
19	Ports and harbours				
20	Agriculture				
21	Tourism and Amenity Usage of the Coast				
22	Inshore Fisheries				

COMMENT

23 Is your organisation or business affected by the risk of coastal flooding or erosion? If so, please give brief details including any significant historic events.

.....

.....

24 What are the main issues relating to the way in which the coastline is managed and which you want to see being dealt with in the plan?

.....

.....

25 What objectives do you have for the future of your interest in the coast?

.....

.....

26 Do you have any views on the way in which the existing defences have had an impact on the way in which the coastline has developed?

.....

.....

27 Do you have any views on changes which should be made to the existing coastal defences? What effect do you think this would have?

.....

.....

28 Do you have any other comments which you would like to be taken into account during the revision of the existing Shoreline Management Plan?

.....

.....

Thank you for your time in completing this questionnaire.

B4 ESG Materials

This section includes the material sent out to the Extended Steering Group through the course of the SMP and contains the following reports:

- Issues Table review
- Briefing note for November 2003 Workshop
- Summary note from November 2003 Workshop
- Briefing note for March 2004 workshop
- Summary note from March 2004 Workshop

B4.1 ISSUES TABLE REVIEW

Weybourne to Lowestoft Ness Shoreline Management Plan

Draft Issues Table

September 2003



Halcrow Group Limited

Halcrow

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Appendix – Issues Table

1 Purpose of the Issues Table

1.1 Introduction

The aim of the SMP is “*to promote sustainable management policies, for a coastline for the 22nd century, which achieve objectives without committing to unsustainable defences*”. Key to promoting robust and sustainable management policy is the derivation of agreed objectives for each section of coast, based upon the identification of issues. These objectives will then be used to develop sustainable management policies, for the next 100 years.

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.

1.2 Approach to Developing the Table

There have been a number of steps in the development of the Issues Table:

Step 1 – Stakeholder Engagement: Key stakeholders along the coast have been invited to engage in the SMP process and provide comments on issues and concerns.

Step 2 - the Baseline: A baseline understanding of the coast and its characteristics has been developed using all available data and stakeholder feedback, and features along the coast have been identified. (Data in the Issues Table will be supported by a series of theme-specific reports).

Step 3 - Identify Benefits: The benefits that the feature actually offers in terms of Flood and Coastal Defence (e.g. recreation, economic health, regeneration, historic value along the coast etc.), and who benefits, have been identified.

Step 4 – Set Objective: An objective has been set for each feature/benefit identified.

The next stage will be to rank the objectives:

Step 5 – Examine the Benefits: Each benefit will be assessed systematically using a series of questions:

- At what scales (spatial/temporal) is the benefit important?
- Is there enough of the benefit?
- Importance of the benefit at the SMP scale or greater?
- Can the benefit be substituted?

Step 6 – Identify Rank: Using the answers to the above four questions, a rank will be given to the objective.

1.3 Present Position

To date, issues have been obtained through consultation with stakeholders and through review of the existing SMP and strategy studies. These have been presented in the Issues Table. Each issue raised has been associated with a particular **feature** and the **benefits** of the feature identified. This focus on benefits helps clarify why a feature on the coast may or may not require protection and helps ensure the process is transparent.

1.4 Explanation of Table Headings

Location:	A discrete point on the coast or a length of coastline between two defined points (for reference).
Feature:	Something tangible that provides a service to society in one form or another or, more simply, benefits certain aspects of society by its very existence.
Issues associated with Feature:	Issues will occur where either the aspirations of Stakeholders conflict or where a feature is at risk from flooding or erosion.
Affect Policy?	This identifies whether the issue would affect the choice of policy or if it relates to implementation of the policy? (NB the issue may still be related to Flood and Coastal Defence)
Why is the feature important?	Identifies the benefits of the feature.
Who benefits?	Defines who are the beneficiaries.
Objective:	Identifies the objective associated with the feature/benefit.

1.5 Overarching Objectives

In addition to the objectives identified within the Issues Table, in setting **policy**, four *overarching objectives* will 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.
---------------------------	---

2 Role of Stakeholders

2.1 This Stage

At this stage, we would like all stakeholders 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

Feedback needs to be received by **23 September 2003**, in order for us to incorporate it prior to objective ranking (Steps 5 and 6).

2.2 Next Stage

Once the issues are finalised, we will move on to the ranking of the objectives through answering the four key questions (see Step 5 above). This rank will determine the *relative importance* of each objective in terms of shoreline management planning. It is therefore critical that the ranking of objectives is correct, as this will directly affect the selection of shoreline management policies in the next stage of SMP development. Stakeholders will therefore be asked to review this ranking. An Extended Steering Group meeting will be held to discuss the ranking, prior to the policy development stage.

The timetable is as follows:

NOW:	23 September	Deadline for response on draft Issues Table	Please return any comments by this date.
NEXT STAGE:	24 October	Full Table including objectives and ranking	Please review prior to ESG meeting.
	5 November	ESG Meeting	Meeting to discuss the objectives and rankings.

2.3 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.

3 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.
cSAC	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).
Feature		Something tangible. This will be of a specific geographical location and specific to the SMP.
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 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.

APPENDIX

ISSUES TABLE

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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
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
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
	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
	Telegraph Station	<ul style="list-style-type: none"> Loss of infrastructure to erosion 	Yes	<ul style="list-style-type: none"> Important infrastructure 	Regional community	Prevent loss of telegraph station
	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
	Weybourne Cliffs	<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	Retain clean exposure of cliff face to maintain the geological study value of the site
	Beach and Foreshore	<ul style="list-style-type: none"> Dredging of offshore banks for marine aggregate – concern about the potential impact on beach levels 	No	<ul style="list-style-type: none"> Important recreational feature 	Regional users and local community	Maintain a beach suitable for recreation purposes
		<ul style="list-style-type: none"> Loss of shingle beach, which has County Wildlife Status 	Yes	<ul style="list-style-type: none"> County wildlife status 	Regional community	Maintain the existing shingle habitats
	Car park and beach access at Beach Lane	<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 access to the beach
		<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 car park facilities

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	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
	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
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
	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
	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
	Recreational and tourist facilities	<ul style="list-style-type: none"> ▪ Potential loss of tourist and recreation sites 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
	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
				<ul style="list-style-type: none"> ▪ Transportation linkages within Sheringham 	Local community	Maintain communication link within Sheringham
	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
	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 	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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
		<ul style="list-style-type: none"> ▪ Dredging of offshore banks for marine aggregate – concern about the potential impact on beach levels 	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 	Local community	Maintain access to the beach
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
	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
	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
	Beeston Cliffs	<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	Retain clean exposure of cliff face to maintain the geological study value of the site
		<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 botanic species 	Yes	<ul style="list-style-type: none"> ▪ Host to nationally important botanic species 	National community	Maintain the existing habitats
	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 	National community	Retain clean exposure of cliff face to maintain the geological study value of the site
		<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
	Beach and Foreshore	<ul style="list-style-type: none"> ▪ Dredging of offshore banks for marine aggregate – concern about the potential impact on beach level ▪ Potential deterioration in condition and appearance of beach 	No Yes	<ul style="list-style-type: none"> ▪ Important recreational feature 	Regional users and local community	Maintain a beach suitable for recreation purposes

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
		<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	<ul style="list-style-type: none"> Important geological educational site 	National community	Retain clean exposure of cliff face and foreshore to maintain the geological study value of the site
	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
		<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
	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
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
	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
	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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion, such as Cromer church 	Yes	<ul style="list-style-type: none"> Benefit to local residents Community cohesion 	Local community	Prevent loss of community facilities to erosion
	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 pier
				<ul style="list-style-type: none"> Historical Value (Grade II listed and one of the relatively few surviving piers in the country) 	National	
	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
	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
			Yes	<ul style="list-style-type: none"> Local infrastructure 	Local community	Maintain pumping station
	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
				<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
	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
	Cliffs	<ul style="list-style-type: none"> Loss of SAC designated site 	Yes	<ul style="list-style-type: none"> Critical habitat 	International community	Maintain the existing habitats
	Beach and foreshore	<ul style="list-style-type: none"> Loss of County Wildlife site 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 – concern about the potential impact on beach levels 	Yes	<ul style="list-style-type: none"> Local nature conservation 	Regional/local community	Maintain the existing habitats
			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
			No			

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	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
Cromer to Overstrand	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
	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
	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
	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 area 	Local community and visitors	Maintain a beach suitable for recreation purposes
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	<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
	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
	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
	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
	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
				<ul style="list-style-type: none"> Transportation linkages within Overstrand 	Local community	Maintain communication links within Overstrand

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	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
	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
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
	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
	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
	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
	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
				<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
	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
	Cliffs	<ul style="list-style-type: none"> Continual erosion of cSAC designated cliffs necessary to maintain a clear face for geological study Continued cliff movements to support cliff face habitat types Possible loss of chalk rafts over the next 100 years 	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
				<ul style="list-style-type: none"> Soft rock cliff habitats for invertebrates 	International community	Maintain the existing habitats

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
		<ul style="list-style-type: none"> Potential loss of cliff top habitats 	Yes	<ul style="list-style-type: none"> Cliff top habitats 	Local environmental interests	Maintain the existing habitats
	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
		<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"> Dredging of offshore banks for marine aggregate – concern about the potential impact on beach levels 	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
	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
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
	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
				<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
	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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	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
	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
				<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
	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
	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 beach (technical and socio-economic) 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
	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
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
	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
	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"> Nationally important site for its extensive Pleistocene sequence 	National community	Retain clean exposure of cliff face to maintain the geological study value of the site
	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 	Local community	Maintain a beach suitable for recreation purposes

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
		<ul style="list-style-type: none"> ▪ Dredging of off-shore banks for marine aggregate – concern about the potential impact on beach levels 	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
	Paston Way footpath	<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 footpath throughout frontage
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	Maintain Gas Terminal
				<ul style="list-style-type: none"> ▪ Provides local employment 	Local economy, local community	Prevent loss of employment
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 	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
	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
	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
	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
	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
				<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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Dredging 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
	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
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
	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 	Local community and visitors	Maintain a beach suitable for recreation purposes
	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
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 Insufficient points score to meet Defra criteria for scheme approval 	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
	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
	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"> Listed buildings due to national heritage interests 	Local community	Prevent loss of Church and Manor House to erosion

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	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
	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	Retain clean exposure of cliff face to maintain the geological study value of the site
	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
	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
	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
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
	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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
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
	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
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 	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
	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
	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
	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
	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 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
	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 No	<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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
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 	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
	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
	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, local community	Prevent damage to/loss of Waxham Barn due to flooding
Sea Palling to Winterton	Horsey Winterton Dunes and Ness	<ul style="list-style-type: none"> Potential loss of dune and coastal habitats that support small populations of uncommon birds (candidate SAC site) Potential loss of SSSI geomorphological site 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 uncommon Little Terns 	International community	Maintain the existing habitats
			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
			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 	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
	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
	Broadland Habitats	<ul style="list-style-type: none"> Risk of saltwater contamination of this otherwise freshwater area 	Yes	<ul style="list-style-type: none"> Important freshwater systems 	International community	Maintain the existing habitats

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
		<ul style="list-style-type: none"> ▪ Loss/damage to nationally important wetland area for recreation and conservation due to wide-scale inundation of this area ▪ 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	▪ Lowland grass and dune/dune heath land interest		
	Agricultural land	▪ Potential damage to or ultimate loss of land through flooding	Yes	▪ Economy/employment through farming	Individual farmers and local community	Prevent damage to/loss of farmland due to flooding
	Tourist related property and facilities	▪ 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	▪ Tourism forms the main of the local economy	Regional users and local economy	Prevent damage to/ loss of tourist facilities due to flooding
	Windmills and other historic buildings	▪ 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
	Infrastructure	▪ Potential loss of or damage to services and roads through erosion	Yes	▪ Services and facilities for the local business and resident communities	Local community	Maintain services to properties
	B1159 Coast road	▪ Potential loss of road through inundation	Yes	▪ Vital communication route for villages between Happisburgh and Winterton	Regional economy, residents, businesses local community	Maintain communication link for villages between Happisburgh and Winterton
	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	▪ Important recreation feature of the area	Local economy, local community and visitors	Maintain a beach suitable for recreation purposes
	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 Yes	▪ Provides access for local fishing industry, residents, tourists, maintenance contractors & emergency services	Regional users and local community	Maintain suitable access to beach

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
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 	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
		<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
	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
	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
				<ul style="list-style-type: none"> National submarine infrastructure 	National community	Maintain cable landing site
	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
Winterton to Newport	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
	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
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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	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
	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 and geomorphological site 	Local environmental interests	Maintain the existing habitats
	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
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
	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
	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
	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
				<ul style="list-style-type: none"> Transportation linkages within Newport 	Local community	Maintain communication link within Newport
	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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
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
	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
	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
	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
			Yes			
	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 recreational feature of the area 	Local community and visitors	Maintain a beach suitable for recreation purposes
			Yes			
Caister	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
	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
	Community facilities	<ul style="list-style-type: none"> ▪ Potential loss of community facilities through erosion, such as Cromer church and beach car parks 	Yes	<ul style="list-style-type: none"> ▪ Benefit to local residents ▪ Community cohesion 	Local community	Prevent loss of community facilities to erosion

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	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
	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
	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
	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
	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 SPA and impact of any future management regime - high vulnerability to any disturbance by works for coastal defence Continued accretion of dune system 	Yes	<ul style="list-style-type: none"> Important recreational feature of the area 	Local community and visitors	Maintain a beach suitable for recreation purposes
			No			
			Yes	<ul style="list-style-type: none"> The SPA is of importance for an internationally important population of breeding Little Terns 	International community	Maintain the existing habitats
	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
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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	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
	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
	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 cliff-top 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
	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
	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
	Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites 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
	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 communities, residents, businesses and tourists	Maintain services to properties

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
		<ul style="list-style-type: none"> Potential loss of beach road 		<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
	Beach and foreshore	<ul style="list-style-type: none"> Potential loss or damage to SPA-designated site at North Denes 	Yes	<ul style="list-style-type: none"> Habitat for an internationally important population of breeding Little Terns 	International community	Maintain existing habitats
		<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach 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
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
	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
	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
	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
	Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites 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
	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 communities, residents, businesses and tourists.	Maintain services to properties
	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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
		<ul style="list-style-type: none"> ▪ Dredging of off-shore banks for marine aggregate 	No			
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
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
	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
	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
	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
	Recreational and tourist facilities	<ul style="list-style-type: none"> ▪ Protection of tourist and recreation sites 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
	Infrastructure	<ul style="list-style-type: none"> ▪ Potential loss of or damage to services and amenities through erosion This includes 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
	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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	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
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
	Agricultural land	<ul style="list-style-type: none"> Risk of loss of 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
	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
		<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"> Dredging of off-shore banks for marine aggregate and impact on beach levels 	No			
	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
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 	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
	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
	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

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
	Tourist facilities	<ul style="list-style-type: none"> Protection of tourist and recreation sites 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
	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
				<ul style="list-style-type: none"> Local access within village to properties 	Regional community	Maintain communication link within Corton
	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
	Beach and foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for marine aggregate 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 concern that lowering beach levels in front of the village could be improved by restoring the failed groyne system 	No	<ul style="list-style-type: none"> Important recreational feature of the town and part of beach is designated for use by nude bathers 	Local community and visitors	Maintain a beach suitable for recreation purposes
			Yes			
			No			
			No			
	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
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	Maintain protection to sewage mains
	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
	Gunton Warren	<ul style="list-style-type: none"> Loss of beach will threaten future of designated County Wildlife site 	Yes	<ul style="list-style-type: none"> Important dune and grassland habitats 	Regional community	Maintain the existing habitats

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
		<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
	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 	Local economy, local community and visitors Local economy, local community and visitors	Maintain a beach suitable for recreation purposes
		<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 – concern about the potential impact on beach levels 	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
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
	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	Maintain protection to Sewage and gas installations
		<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	Prevent loss/damage to communication links within Lowestoft
	Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites 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
	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
		<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
	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	Maintain the site of Ness Point

Location	Feature	Issues associated with Feature	Affect policy?	Why is the feature important (identify benefits)?	Who benefits?	Objective
		<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
	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
		<ul style="list-style-type: none"> Potential health and safety hazard caused by deteriorating groyne field Dredging of off-shore banks for marine aggregate 	No			

B4.2 BRIEFING NOTE FOR NOVEMBER 2003 WORKSHOP

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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Appendix A – Draft Extended Issues Table

Appendix B – Summary Statements for the 2 baseline cases

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
			No								
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	<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 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

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
	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

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 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

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 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 beach Dredging 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 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	<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
			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

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
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

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
	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

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
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

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"> 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

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
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

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
	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

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
	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 	Yes	<ul style="list-style-type: none"> Important dune and grassland habitats 	Regional community	Maintain the existing habitats	Sub-regional	Medium	No	No	E4
		<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
	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 	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
		<ul style="list-style-type: none"> 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 	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.

B4.3 SUMMARY NOTE FROM NOVEMBER 2003 WORKSHOP

Kelling to Lowestoft Ness Shoreline Management Plan

Extended Steering Group: Policy Development Workshop

5 November 2003, NNDC Offices, Cromer

Summary Note



Halcrow Group Limited

Halcrow

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1 Introduction

This document summarises the key comments and conclusions from the Kelling to Lowestoft Ness Shoreline Management Plan Extended Steering Group (ESG) workshop held on 5th November 2003 at NNDC Offices, Cromer.

The aim of the ESG workshop was to involve the stakeholders of the Kelling to Lowestoft Ness Shoreline Management Plan 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.

2 Meeting Attendees

Name	Affiliation	Breakout Session 1	Breakout Session 2
Mr Kevin Burgess	Halcrow	A	2
Dr Helen Jay	Halcrow	B	3
Mr Keith Tyrell	Terry Oakes Associates	C	4
Mr Peter Frew	North Norfolk District Council	A	1
Mr Gary Watson	North Norfolk District Council	A	2
Mr Brian Farrow	North Norfolk District Council	A	1
Mr Gary Alexander	North Norfolk District Council	D	1
Mr David Wilson	Defra	A	2
Mr Peter Lambley	English Nature	B	2
Mr Bernard Harris	Gt. Yarmouth Borough Council	A	3
Mr Paul Houghton	Gt. Yarmouth Borough Council	A	4
Mr Julian Walker	Waveney District Council	A	4
Mr Guy Cooper	Environment Agency	A	2
Mr Steve Hayman	Environment Agency	A	-
Ms Heidi Mahon	Norfolk County Council	B	3
Mr John Hiskett	Norfolk Wildlife Trust	B	1
Mr Tim Venes	Norfolk Coast Project	B	-
Mr John Sizer	National Trust	D	-
Mr Peter Murphy	English Heritage	D	1
Cllr Tony Overill	Caister-on-Sea Parish Council	C	3
Cllr Terry W Morris	Corton Parish Council	C	4
Cllr. Steve Chilvers	Councillor for the Gunton and Corton Ward	C	4
Cllr. D Corbett	District Councillor – Bacton Division	C	2
Cllr. B J Hannah	County Councillor – Sheringham Division	C	-
Prof. Tim O'Riordan	School of Environmental Sciences, UEA	D	-
Mr Robin Buxton	Norfolk & Suffolk Flood Defence Committee Member (also representing CLA)	D	2
Mr John Ash	Risk and Policy Analysts Ltd	D	1
Ms Susana Dias	Risk and Policy Analysts Ltd	B	3
Session 1: A = Technical (Local authorities, EA and Defra) B = Biodiversity and Nature Conservation C = Councillors D = Planners (National Trust, English Heritage and others)		Session 2: 1 = Kelling to Bacton 2 = Bacton to Winterton 3 = Winterton to Great Yarmouth 4 = Gorleston to Lowestoft Ness	

3 Outline of day's activities

Presentation by Halcrow

This outlined the role of the SMP and summarized activities to date. There was also an 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.

Breakout Session 1

The ESG was divided into four groups of individuals with broadly similar interests or disciplines (see Table above). Each group were 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. The conclusions from each group were fed back to the rest of the ESG and there was a brief discussion of the main points.

Breakout Session 2

The ESG was then divided into different groups of individuals, split by geographical area. Each group were asked to consider the different viewpoints highlighted 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 specific sections of coast. The conclusions of each group were fed back to the rest of the ESG, highlighting areas of agreement and conflict.

4 Summary of conclusions from the Breakout Sessions

4.1 Breakout Session 1

4.1.1 Group A: Technical

- Money is a key control on anything we do on the coast – if we had enough money anything would be possible.
- Over the next 20 years there should be no reduction in the present level of protection to communities but increased planning controls. However, the knock-on effect of this needs to be considered.
- The vision over the 20+ years is one of working towards a self-sustaining coast, but with minimal interference from man. However, this will involve relocation and therefore requires national debate and guidance.
- It is important that communities are recognised but we don't want our successors to be asking the same questions in 20 years time.
- We need to work out how we move from today to the long term. If we allow communities to retreat this involves planning issues and compensation issues.
- Within the longer term vision there will still be places that will require protection, but the debate will need to focus on where will be saved.
- Importance of communities does not change over time.

4.1.2 Group B: Biodiversity and Nature Conservation

Excluding Happisburgh to Winterton:

- The long term vision is for a naturally functioning coastline
- There should therefore be a move towards managed realignment with the thought of removing defences along cliffed section over the next 20 to 30 years.
- In general, managed realignment will satisfy objectives for the SSSI sites, but there will be loss of CWS cliff top grasslands. This will be an acceptable loss as long as a 'sustainable' coastline is the overall aim.
- There will also be loss of features and communities that are covered by the AONB – there is however, the possibility of relocation, which, to be consistent with the AONB, would need to be carried out in a planned manner. Moving towards a natural coastline will improve landscape quality in terms of the coastline.

Happisburgh to Winterton:

- There are significant habitats in this area, which are protected by the Habitat Regulations.
- It should, however, be possible to 'creatively' apply the Habitat Regulations with the overall aim to allow habitats to evolve.
- An area of potential erosion/ loss would be Winterton Dunes – but this may be acceptable if we are moving towards increased biodiversity. It is accepted that these dunes probably couldn't be recreated – particularly due to their important acidic characteristic.
- The main vision from this group would be for this area to flood, however other Nature Conservation, such as RSPB and the Broads Authority may disagree, due to the loss of important freshwater habitats. It is therefore recommended that these groups get involved in the SMP process.
- It would be hoped to have a natural grading from saline to freshwater, i.e. moving towards a 'no active intervention' policy.
- There are also major socio-economic issues therefore the appropriate timescales for introducing such changes need to be carefully considered.
- There is also high uncertainty over how the coast will look and evolve and further studies need to be carried out to improve our knowledge and understanding. Therefore would accept holding the line in the short term, i.e. over the next 20 years, so that further research could be carried out.

4.1.3 Group C: Councillors

- Important to continue protection of major settlements such as Cromer and Sheringham throughout the life of the plan.
- Accepted the inevitability of losing smaller settlements – main thinking was that the costs of defending these would be an unacceptable burden on the rest of the community as well as the sustainability arguments put forward in the introductory presentations.
- Important to start to build into the planning process the means by which people and assets from these vulnerable settlements should be relocated.
- Further development should, in general, be prohibited within the zone shown to be at risk under the "Do Nothing" scenario. Quite accepted their role as planning authorities to be indicating this within local plans. Were prepared to modify this view where defences were likely to be provided to an adequate standard over a prolonged period.

The potential erosion line needs to be incorporated into development plans to limited future development and there must be more consideration of the definition of village envelopes with the possibility of 'rolling back' the village into adjacent landward areas. Potential relocation areas should be identified within the Local Plans.

- Seemed to accept as inevitable that the Happisburgh to Winterton frontage would breach in the future. Their major concerns were the protection of the individual communities within Broadland and maintaining the "backdoor" defences to Great Yarmouth.
- Fully endorsed the policy of preventing development in the indicative flood plains.
- The major installation of Bacton Gas Terminal would need protection over the short to medium term but we should expect its importance to dwindle, certainly beyond the 50 year timescale, after which allowing natural processes to take effect will be the preferred policy. However, this may remain an important *receptor* site for gas supply (e.g. from Russia).
- The members were keen for the predictive process to recognise that, over the 100-year period under consideration, changes would take place in the natural environment and the habitats and species that it supports.
- There was a general feeling that we should not put too great a store on the attractiveness of beaches to tourists. The style of holidaymaking had changed so that there was more demand for undercover activities. The traditional "bucket and spade" holiday relied on the too-few hot and sunny days and had been superseded by the holiday centre style of attraction which could be located well away from the vulnerable zone. Likely that the loss of the beach would be of more concern to residents, dog walkers etc.
- It was important that those holiday developments that would come under threat as the result of the final policies should be encouraged to relocate within the locality. Taking a global view that people unable to enjoy facilities at a particular place, because they had been lost to flooding or erosion, could simply go to another resort 50 miles away was unacceptable. Such attractions should be kept in the locality to have the minimum adverse effect on the local tourism economy.
- So many of the issues being encountered when deciding the fate of each length of coastline would be made simpler to deal with if compensation was available to those facing financial loss.
- There is a need to take account of the Outer Harbour development at Great Yarmouth.

4.1.4 Group D: Planners

- There needs to be improved understanding of coastline with more modelling undertaken over the next 20 years.
- The vision for the next 20 years should be a 'hold the line' or 'carry on as present', with better information continually fed into the process. There should, however, be restricted development.
- Extreme events (significant damage) could change policy and perception.
- Managing conflict may change, depending on new policies.
- In the Medium term (up to 50 years) there should be a management of erosion/ loss with introduction of better information.

- Need to record archaeological sites/buildings in advance of inevitable loss. Possibility for relocation of properties.
- There needs to be an improved mechanism for land loss/ compensation/ planning; with consideration of how to deal with property 'blight'.
- Need to look wider than the SMP area and consider cost/ benefits of the policy on other areas and there needs to be a more integrated approach (possibly move towards ICZM).
- There is a presumption for a 'natural' coast by Year 100. By this stage there may also be a different approach to erosion and flooding and perceptions of these events may change over time.
- Long term planning is required, which addresses issues such as prioritising assets, landscape and built environment to be able to manage loss effectively. By Year 100 there should be acceptance of natural or 'semi-natural' defences. There should be consideration of appropriate design rather than compensation, i.e. consideration of 'Redesigned' landscapes.
- Need to think about strategic safeguards for high 'value' assets – 3 safeguards:
 - Property and nature conservation interests.
 - Reconstructed landscapes.
 - Redesigned landscapes.

4.1.5 General Discussion

- Education must start tomorrow.
- Should we be allowing settlements to 'roll back' into adjacent areas?
- We are in danger of confusing two issues: (1) the physical structure of a settlement and (2) the community/ people.
- At Happisburgh people want to keep their housing rather than just accept compensation.
- We should be aware that a natural breach along the Happisburgh to Winterton frontage would totally influence political decision and defence along the present line could be an inevitable response; therefore we need to be making plans before that happens.
- There needs to be 'buy in' to the SMP process by local people.

4.2 Breakout Session 2

4.2.1 Kelling to Bacton

- This is a cliffed section, with communities interspersed with agricultural land. There are relative levels of importance in terms of the settlements.
- Cromer is very important and can be considered a key 'Driver' and therefore the vision would be for this to be protected up to Year 100.
- Sheringham is also a key 'Driver' and therefore the vision would be for this to be protected up to Year 100.
- It would be acceptable for there to be no beaches at these two locations.
- There was indecision over Mundesley, but the general view was that it would probably become unsustainable to hold by year 100.

- For the smaller communities, the vision would be to hold in the short term and then move towards a managed retreat.
- Other sections have natural environmental designations.
- Bacton Gas Terminal will be a key driver while it still exists. The cost of relaying Bacton pipeline would be huge as there are both surface and sub-surface installations.
- There will be issues of outflanking.
- Key to the success is acceptance by the communities and ideas will have to be very carefully presented.
- This vision does mean that we could possibly have a coast that is not sustainable in process terms.
- There is some disagreement with the ranking in that access to the beach needs to link to the value of the beach (although it is accepted that in many cases access could be relocated).

4.2.2 Bacton to Winterton

- Bacton Gas Terminal is a key driver and is likely to remain as a receptor site for at least the next 50 years and maybe longer. But in theory it is an asset that could be moved landwards.
- Between Bacton and Happisburgh Village there are no strong drivers for protecting in the long term.
- Between Happisburgh and Winterton there is a general consensus that it will be improbable to hold the coast in its current position, with managed retreat inevitable and acceptable in the long term. There are various options available regarding the extent of the retired line and timing. The decision depends upon economics and impacts on land/ property behind.
- Biodiversity will also be a key driver in this area.
- It would be possible to protect isolated areas from flooding using bunds, but these would have to be extremely high. Hickling Wall, for example, forms a secondary defences which could be developed as a retired line.
- There needs to be more detailed study into this area, as we would be creating a new landscape.
- The key driver at Winterton Dunes is to maintain the natural functioning of the system and allow a dynamic dune system. The wall at the back of the dunes may therefore need to be realigned to allow this.

4.2.3 Winterton to Great Yarmouth

- Along much of this shoreline problems of erosion are not as severe as those in other areas and the North Denes area is currently accreting. The key driver is therefore to aim for a naturally-functioning coastline.
- In first 20 years there could be a policy of No Active Intervention along Newport, Scratby and California, with acceptance of loss of holiday accommodation.
- At the southern end of Caister there is a flood risk issues, but this could be solved by a flood defence measure.
- Need to consider impacts of the Outer Harbour proposed at Great Yarmouth. This has received EU funds.

- Great Yarmouth will be a key driver at the southern end due to commercial and residential properties. Due to the flood plain area behind there would be nowhere to relocate housing locally. There is also an issue of potential backdoor flooding, which links back to the Happisburgh-Winterton frontage.
- There is an SPA at North Denes – if there is a decision to ‘do nothing’ then the habitat would need to be replaced, but the Terns are a mobile species and therefore it should be possible to relocate the SPA within the SMP area.

4.2.4 Gorleston to Lowestoft Ness

Gorleston

- It was important to maintain defences to Gorleston on the line of the present sea wall. The potential loss of the beach was of less significance than the loss of the promenade and built sea front attractions.
- The matter of the East Port development was discussed and it was pointed out that the proposed mitigation measures included sand bypassing to ensure that down drift beaches would not be adversely affected. This may give the opportunity to artificially nourish the Gorleston Beach.
- Allowing erosion to take place would see the loss of a substantial number of high quality residences being lost after 50 years. This would be unacceptable.
- It was also possible that “Do nothing” would result in loss of the South Pier protecting the entrance to the River Yare beyond the 50 year timescale. This could lead to interference with the discharge characteristics of the river outfall and a knock on impact to the town’s defences and the environment and ecology of Broadland. Again, this risk seemed to be unacceptable.

Gorleston and Hopton

- This frontage is protected by a timber revetment, which restricts the rate of erosion of the cliffs. The protected land is used as a golf course. There seemed to be some potential for relocating that part of the course, which would be lost to erosion on adjoining land currently, designated as agricultural.
- The suggested way forward was to continue maintaining the revetment throughout its residual life of 20 years but to abandon it thereafter. The golf club should be encouraged to plan for future loss of the seaward area by acquiring this adjoining land so that it is ready for occupation and use when the defences fail.

Hopton

- Although the 50 and 100-year erosion lines indicate that development will be lost at Hopton this is, in the main, holiday accommodation. As before, there seemed opportunity for the development to spread into adjoining land. We discussed the issue that holiday developments need to invest considerable sums periodically, whatever the circumstances, to keep their accommodation and attractions up to date and meeting visitors expectations.
- The village envelope would need to be amended to accommodate these changes but the members of the group felt that this was practical.

- The few remaining residential buildings in the vulnerable zone did not seem to merit the substantial expense of protecting the Hopton frontage. It was noted that none of the village amenities or community facilities was located in the zone at risk.

Hopton to Corton

- This frontage is also protected by a timber revetment with the same residual life – 20 years. This should be maintained in the interests of safety until the end of its effective life.
- The principal land use is devoted to the Broadland Sands holiday development that, again, has the potential to expand to the north and south. The planning process should encourage the owners to prepare for the loss of the revetment's protection by doing this. As the development is based on the use of static caravans this should not present insurmountable problems beyond the cost of any necessary land acquisition. It was noted that the owner had aspirations to develop the beach facilities for his visitors. This may be usable in a trade off – by indicating that the beach would remain healthier, for longer, if cliff erosion were allowed to take place.

Corton

- It is impossible to ignore the work, which is currently taking place to provide new defences to the village. Although the work has been economically justified on a timescale of 20 years it is expected that it will provide substantial protection for longer. Without the defences, erosion would result in the loss of the cliff top holiday development consisting of brick built accommodation blocks and a small number of residential properties.
- Unlike the previous examples there did not seem to be the same potential for expansion of the site into non-vulnerable areas. This development is seen as a major contributor to the tourism economy of Waveney District.
- The 50-year erosion line also threatens the main street within the village and, with it, shops, pubs and a chapel, as well as permanent residences – essentially the heart of the village. Additionally the main access roads into the village are also shown as being under threat.
- It was considered by the group essential to secure the protection of village by maintaining the new defences beyond the 20 year assumed life of the current works.
- It was proposed to defer the policy decision affecting the next 50 years until the end of the defence life was approached. The prevailing conditions and practicalities of replacing the defences would then be re-assessed. However it should be realised that to retain Corton as a viable community without the benefit of the coastal defences would require the construction of a new village community hub, residential development and two new access roads, sited away from vulnerable cliff top locations
- Would therefore need to consider the cost implication of relocating community facilities and infrastructure landwards. Corton Coast Road (and to south) would need to be maintained as part of policy for Corton.

Gunton

- This frontage is provided with groynes, which are semi-derelict and deemed to be ineffective. There would appear to be no justification for their replacement or the provision of any other style of defence.

- The one rider to this decision would be the short length of coast road at the northern end of this frontage. This may be at risk within 20 years as shown on the available maps but it is assumed that this will be dealt with as part of the policy implementation for the previous section.
- We consulted with the “Environmental” group about the status of the CWS at Gunton Warren but there seemed to be an acceptance that this might be lost and that it did not warrant specific protection.

North Denes to Ness Point

- Between Gunton and Ness Point, Lowestoft is the key driver due to major infrastructure and commercial properties. The defences to this frontage protect an important industrial area, a tourism asset and vital infrastructure on which the whole town depends.
- It was therefore deemed essential by the group to maintain the defences to the area throughout the life of the plan.

4.2.5 General

- Need to think about what happens if communities want to self-fund a defence measure in the future that may be at odds with processes.
- There is a need to be consistent along the coast in terms of policy evaluation, e.g. differences stated above for Mundesley and Corton.
- Need to ensure that development control aspects feed into the planning process.
- There is a willingness to accept change, e.g. loss of villages and town properties, but this requires compensatory measures at both local planning and national government policy levels.

B4.4 BRIEFING NOTE FOR MARCH 2004 WORKSHOP

Kelling to Lowestoft Ness Shoreline Management Plan

Policy Appraisal

February 2004



Halcrow Group Limited

Halcrow

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Appendix – Policy Appraisal Table

1 Introduction

1.1 Background

The aim of the SMP is “*to promote sustainable management policies, for a coastline for the 22nd century, which achieve objectives without committing to unsustainable defences*”. Policy will be set for 3 time periods (epochs): 0 to 20, 20 to 50 and 50 to 100.

Key to developing robust and sustainable management policy has been the identification of issues and objectives for the SMP coast. These objectives were presented at the last Extended Steering Group (ESG) workshop on 5th November 2003, which brought together key stakeholders. This workshop allowed discussion of future shoreline management policies, through bringing together an understanding of the issues, the risks, and an appreciation of each other’s viewpoints.

From this workshop it was possible to define a scenario for each of the three epochs, using the ‘Key Drivers’ and balance of objectives identified:

- Scenario A - Balanced objectives (as identified at the ESG meeting)

For the 0-20 year epoch, there appeared to be general agreement at the ESG meeting to continue present management practices at most locations; however possible variations were identified for the medium and longer term. Therefore, as a sensitive test, variations on scenario A have also been assessed. These alternatives are based upon the following principles:

- Scenario B - Key Drivers plus a more naturally functioning coast at year 100
- Scenario C - Key Drivers plus other areas where present economic criteria *may* be satisfied.

All three scenarios have been tested to assess coastal response and determine how well objectives are met.

Any policy along the coast has to be set within existing legislation, and other, constraints, therefore in addition to the objectives identified through consultation, four *Overarching Objectives* must 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 and seek to achieve Biodiversity Action Plan targets.
Socio-economic Objective:	Shoreline management policies should consider current regional development agency objectives and statutory planning policies.

1.2 Role of Stakeholders

The role of the stakeholder is to **steer** policy decisions and feedback from the next ESG workshop will influence the policy presented at the public consultation. It is therefore important that the implications of each policy decision are fully appreciated by members of the ESG.

2 Policy Appraisal Table

2.1 Explanation of the Table

The table sets out the objectives identified at each location along the coast, with a brief description of implications of each of the 3 policy scenarios (A, B and C), together with the implications of a No Active Intervention scenario (NAI). The assessment has been undertaken for the 3 epochs: 0 to 20 years, 20 to 50 years and 50 to 100 years.

For each scenario an assumption (in italics) has been made of the management practice or change in protection provided.

The first three columns of the Table are taken directly from the Issues Table:

Feature:	Something tangible that provides a service to society in one form or another or, more simply, benefits certain aspects of society by its very existence.
Issues associated with Feature:	Issues will occur where either the aspirations of Stakeholders conflict or where a feature is at risk from flooding or erosion.
Objective:	Identifies the objective associated with the feature/benefit.

2.2 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.
cSAC	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).
Feature		Something tangible. This will be of a specific geographical location and specific to the SMP.
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.
NAI	No Active Intervention	Where there is no investment in coastal defence assets or operations, i.e. no shoreline management activity (as defined by 2001 SMP Guidance).

Abbreviation	Term in Full	Definition
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 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.

APPENDIX: POLICY APPRAISAL TABLES

Kelling Hard to Sheringham

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>The short length of palisade along the shingle ridge fails in the first half of period.</i>	<i>No defences (apart from low timber/ steel palisade at Weybourne retained to prevent breach and flooding).</i>	<i>No defences (Natural shingle bank at Weybourne)</i>	<i>No defences. (Natural shingle bank at Weybourne)</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>No defences. (Natural shingle bank at Weybourne)</i>	<i>(As A)</i>	<i>(As A)</i>
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 	Prevent loss of residential properties to erosion	Loss of most seaward Coastguard cottages	Loss of most seaward Coastguard cottage	Loss of half of area covered by Coastguard cottages	Loss of half of area covered by Coastguard cottages	(As A)	(As A)	Total loss of Coastguard cottages	Total loss of Coastguard cottages	(As A)	(As A)
Weybourne Priory	<ul style="list-style-type: none"> Loss of the Priory to It is considered that there are unexcavated remains alongside the Priory and these will be at risk through continuing erosion 	Prevent loss of Weybourne Priory to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	No loss	No loss	(As A)	(As A)
Heritage sites	<ul style="list-style-type: none"> Loss of a number of monument sites of high importance 	Prevent loss of heritage sites	Some sites lost	Some sites lost	Further sites lost	Further sites lost	(As A)	(As A)	Further sites lost	Further sites lost	(As A)	(As A)
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 	Prevent loss of farmland to erosion	Loss of farm land	Loss of farm land	Loss of farm land	Loss of farm land	(As A)	(As A)	Loss of farmland	Loss of farmland	(As A)	(As A)
Weybourne Cliffs SSSI	<ul style="list-style-type: none"> Continual erosion of cliffs necessary to maintain a clear face for geological study 	Continued erosion of cliffs to maintain exposures	Continued erosion therefore exposures maintained	Continued erosion therefore exposures maintained	Continued erosion therefore exposures maintained	Continued erosion therefore exposures maintained	(As A)	(As A)	Continued erosion therefore exposures maintained	Continued erosion therefore exposures maintained	(As A)	(As A)
Kelling Hard County Wildlife Site	<ul style="list-style-type: none"> Loss of CWS site designated as unimproved, slightly calcareous and neutral grassland 	Maintain the existing habitats	Minimum loss of Kelling Hard CWS	Minimum loss of Kelling Hard CWS	Less than 50% loss of Kelling Hard CWS	Less than 50% loss of Kelling Hard CWS	(As A)	(As A)	Partial loss of Kelling Hard CWS	Partial loss of Kelling Hard CWS	(As A)	(As A)

Beach Lane County Wildlife Site	<ul style="list-style-type: none"> Loss of shingle beach which protects areas of grassland, reedswamp and brackish lagoons which have County Wildlife Status 	Maintain the existing shingle habitats whilst allowing shingle ridge to roll back	Minimum loss of Beach Lane CWS but shingle ridge allowed to roll back	Minimum loss of Beach Lane CWS but shingle ridge allowed to roll back	Some loss of CWS but shingle ridge allowed to roll back	Some loss of CWS but shingle ridge allowed to roll back	(As A)	(As A)	Some loss of CWS but shingle ridge allowed to roll back	Some loss of CWS but shingle ridge allowed to roll back	(As A)	(As A)
Beach and Foreshore	<ul style="list-style-type: none"> Dredging of offshore banks for aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) Concern over beach condition 	Maintain a beach suitable for recreation purposes	Beach similar to present	Beach similar to present	Beach similar to present	Beach similar to present	(As A)	(As A)	Beach present	Beach present	(As A)	(As A)
Car park and beach access at Beach Lane	<ul style="list-style-type: none"> Potential loss of car park 	Maintain car park facilities	Minimum loss	Minimum loss	50% car park lost, but low lying land therefore car park could be moved landwards	50% car park lost, but low lying land therefore car park could be moved landwards	(As A)	(As A)	Total loss of car park, but could be relocated	Total loss of car park, but could be relocated	(As A)	(As A)
	<ul style="list-style-type: none"> Potential loss of access to beach 	Maintain access to the beach	No loss of beach access	No loss of beach access	No loss of beach access	No loss of beach access	(As A)	(As A)	No loss of beach access	No loss of beach access	(As A)	(As A)
Sheringham Golf Links	<ul style="list-style-type: none"> Loss of golf course through erosion 	Prevent loss of golf course to erosion	Loss of golf course land	Loss of golf course land	Further loss of golf course land	Further loss of golf course land	(As A)	(As A)	Further loss of golf course land	Further loss of golf course land	(As A)	(As A)
National Trail	<ul style="list-style-type: none"> Potential loss of Trail through erosion 	Maintain Trail throughout frontage	Loss of parts of Peddlers Way & Norfolk Coast path but could be relocated	Loss of parts of Peddlers Way & Norfolk Coast path but could be relocated	Further loss of parts of Peddlers Way & Norfolk Coast path but could be relocated	Further loss of parts of Peddlers Way & Norfolk Coast path but could be relocated	(As A)	(As A)	Further loss of parts of Peddlers Way & Norfolk Coast path but could be relocated	Further loss of parts of Peddlers Way & Norfolk Coast path but could be relocated	(As A)	(As A)
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 	Maintain landscape quality	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	(As A)	(As A)	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	(As A)	(As A)

Sheringham

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>The timber groynes will fail during this period, as will the seawalls to the west and east. In front of the town the seawall and rock groynes will remain in place.</i>	<i>Seawall and groynes maintained to prevent any erosion.</i>	<i>The central seawall and rock groynes will remain for most of this period.</i>	<i>Seawall and groynes maintained to prevent any erosion.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>The central seawall and rock groynes will fail at the start of this period.</i>	<i>Seawall and groynes maintained to prevent any erosion.</i>	<i>(As A)</i>	<i>(As A)</i>
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 	Prevent loss of residential properties to erosion	No loss	No loss	No loss of main town, but loss of properties along Beeston Regis	No loss	(As A)	(As A)	Loss of residential properties	No loss	(As A)	(As A)
Commercial properties	<ul style="list-style-type: none"> Potential loss of businesses through erosion 	Prevent loss of commercial properties to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Loss of commercial properties	No loss	(As A)	(As A)
Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Prevent loss of community facilities to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Loss of main town streets and town centre car parks	No loss	(As A)	(As A)
Heritage sites	<ul style="list-style-type: none"> Loss of heritage sites including The Lees and Beeston Regis Hill, which are of high importance 	Prevent loss of heritage sites to erosion	Loss of one Beeston Regis and other monument sites	No loss	No further loss	No loss	(As A)	(As A)	No further loss	No loss	(As A)	(As A)
Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites, accommodation and activities including major attractions, shops, public open space, holiday amenities, and promenade 	Prevent loss of tourist facilities to erosion	No loss	No loss	No loss but promenade properties more exposed	No loss but promenade properties more exposed	(As A)	(As A)	Loss of promenade and seafront shops and amenities	No loss but promenade properties more exposed	(As A)	(As A)
Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and roads through erosion 	Maintain services to properties	No loss	No loss	No loss	No loss	(As A)	(As A)	Loss of services associated with property loss	No loss	(As A)	(As A)

		Maintain communication link within Sheringham	No loss	No loss	No loss	No loss	(As A)	(As A)	Loss of various roads within the town centre	No loss	(As A)	(As A)
Lifeboat Station	<ul style="list-style-type: none"> Potential loss of access Potential loss of building 	Maintain Lifeboat Station in the town	No loss and slipway functional	No loss and slipway functional	No loss and slipway functional	No loss and slipway functional	(As A)	(As A)	Loss of promenade and therefore existing Lifeboat Station	Building at increased risk of being overtopped. Slipway will be functional.	(As A)	(As A)
Beeston Cliffs SSSI	<ul style="list-style-type: none"> Continual erosion of cliffs necessary to maintain a clear face for geological study 	Continued erosion of cliffs to maintain exposures	Cliff erosion, meaning increased SSSI exposure	No cliff erosion therefore poor SSSI exposure	Cliff erosion, meaning increased SSSI exposure	No cliff erosion therefore poor SSSI exposure	(As A)	(As A)	Cliff erosion, meaning increased SSSI exposure	No cliff erosion therefore poor SSSI exposure	(As A)	(As A)
	<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 	Maintain the existing habitats	Small loss but habitat likely to be able to remain landward	Cliff top grassland preserved	Loss of cliff top grasslands. Possible recreation inland	Cliff top grassland preserved	(As A)	(As A)	Loss of cliff top grasslands. Possible recreation inland	Cliff top grassland preserved	(As A)	(As A)
Beach and foreshore	<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 offshore banks for aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Similar beach to today	Similar beach to today	Little or no beach along main frontage. Beach maintained at Beeston Regis	Little or no beach	(As A)	(As A)	Beach present in a retreated position	No beach	(As A)	(As A)
National Trail	<ul style="list-style-type: none"> Potential loss of Trail through erosion 	Maintain Trail throughout frontage	No change in trail location along main frontage	No change in trail location	No change in trail location along main frontage	No change in trail location	(As A)	(As A)	Loss of present trail	No change in trail location	(As A)	(As A)
Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Maintain access to the beach	Beach access as today	Beach access as today	Beach access as today	Beach access as today	(As A)	(As A)	Access lost as seawall and promenade fails	Beach access possible, but no beach	(As A)	(As A)

Sheringham to Cromer

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Timber revetment will fail early during this period, with failure of timber groynes towards the end of the period. Masonry walls at Gaps will start to fail.</i>	<i>Timber groynes between Sheringham and West Runton allowed to fail. Two short stretches of masonry wall at Gaps maintained.</i>	<i>No defences</i>	<i>Short stretches of masonry wall at Gaps allowed to fail.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences</i>	<i>No defences</i>	<i>(As A)</i>	<i>(As A)</i>
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 	Prevent loss of residential properties to erosion	No properties lost but potential loss of land	No properties lost but potential loss of land	Most-seaward properties lost	Most-seaward properties lost	(As A)	(As A)	Properties lost	Properties lost	(As A)	(As A)
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 	Prevent loss of tourist accommodation to erosion	Partial loss of caravan park land	Partial loss of caravan park land	Further loss of caravan park land	Further loss of caravan park land	(As A)	(As A)	Further loss of caravan park land	Further loss of caravan park land	(As A)	(As A)
Heritage sites	<ul style="list-style-type: none"> Loss of heritage sites including a couple identified as of high importance 	Prevent loss of heritage sites to erosion	No loss of sites identified as high importance	No loss of sites identified as high importance	Loss of one site of high importance and other sites	Loss of one site of high importance and other sites	(As A)	(As A)	No further loss of sites	No further loss of sites	(As A)	(As A)
Agricultural land	<ul style="list-style-type: none"> Potential loss of Grade 3 land through erosion 	Prevent loss of farmland to erosion	Loss of farmland	Loss of farmland	Further loss of farmland	Further loss of farmland	(As A)	(As A)	Further loss of farmland	Further loss of farmland	(As A)	(As A)
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 	Continued erosion of cliffs to maintain exposures	Continued exposure therefore improved exposure	Continued exposure, except Gaps, therefore improved exposure	Continued exposure therefore improved exposure	Continued exposure therefore improved exposure	(As A)	(As A)	Continued exposure therefore improved exposure	Continued exposure therefore improved exposure	(As A)	(As A)
Car park and beach access	<ul style="list-style-type: none"> Potential loss of car park 	Maintain car park facilities	Loss of car park at West Runton (but possible relocation). Loss of section of East Runton car park	Loss of car park at West Runton (but possible relocation). Loss of section of East Runton car park	Loss of car park at East Runton	Loss of car park at East Runton	(As A)	(As A)	(Car park lost 20-50)	(Car park lost 20-50)	(As A)	(As A)

	<ul style="list-style-type: none"> Potential loss of access to beach 	Maintain access to the beach	Access at East and West Runton lost	Beach access at Runton gaps maintained	(Access lost 0-20 but possible relocation)	Access lost due to outflanking, but possible relocation	(As A)	(As A)	(Access lost 20-50 but possible relocation)	(Access lost 20-50 but possible relocation)	(As A)	(As A)
Beach and Foreshore	<ul style="list-style-type: none"> Loss of County Wildlife site 	Maintain the existing habitats	Similar beach to today	Similar beach to today	Similar beach to today	Similar beach to today	(As A)	(As A)	Beach present	Beach present	(As A)	(As A)
	<ul style="list-style-type: none"> Dredging of offshore banks for aggregate – potential impact on beach level (<i>Non-policy issue</i>) Potential deterioration in condition/ appearance of beach Continuing maintenance necessary for existing concrete defences at foot of cliffs Potential health and safety hazard caused by deteriorating defences at foot of cliffs 	Maintain a beach suitable for recreation purposes	Similar beach to today	Similar beach to today	Similar beach to today	Similar beach to today	(As A)	(As A)	Beach present	Beach present	(As A)	(As A)
	<ul style="list-style-type: none"> West Runton SSSI includes the foreshore - designation requires continued erosion to keep the exposures clean 	Retain foreshore to maintain the marine study value of the site	Continued erosion keeps exposures clean	Natural processes allowed and increased exposure	Continued erosion keeps exposures clean	Slight improvement once Gaps allowed to erode	(As A)	(As A)	Continued erosion keeps exposures clean	Continued erosion keeps exposures clean	(As A)	(As A)

Cromer

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Along most of the frontage the seawall will remain in place for this period. The groynes will fail towards the end of the period.</i>	<i>Seawall and groynes maintained to prevent any erosion.</i>	<i>Complete failure of the seawall at the start of this period.</i>	<i>Seawall and groynes maintained to prevent any erosion.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>Seawall and groynes maintained to prevent any erosion.</i>	<i>(As A)</i>	<i>(As A)</i>
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 	Prevent loss of residential properties to erosion	No loss	No loss	Loss of residential properties	No loss	(As A)	(As A)	Further loss of residential properties	No loss	(As A)	(As A)
Commercial properties	<ul style="list-style-type: none"> Potential loss of businesses through erosion Loss of investment on part of individual business owners 	Prevent loss of commercial properties due to erosion	No loss	No loss	Loss of commercial seafront properties	No loss	(As A)	(As A)	Further loss of commercial properties in main town	No loss	(As A)	(As A)
Commercial properties on the promenade	<ul style="list-style-type: none"> Potential loss of businesses through erosion or repeated flooding 	Prevent damage to/loss of commercial properties due to erosion	Promenade maintained	No loss	Loss of promenade and associated properties	No loss, but increased risk of overtopping (and no beach)	(As A)	(As A)	(Promenade lost 20-50)	No loss, but increased risk of overtopping (and no beach)	(As A)	(As A)
Heritage sites	<ul style="list-style-type: none"> Potential loss of important monuments and Grade II listed properties of Cromer Baptist Church and 'The Gangway' 	Prevent loss of heritage sites to erosion	No loss	No loss	Loss of Grade II properties, and important monument sites	No loss	(As A)	(As A)	Further loss of heritage sites	No loss	(As A)	(As A)
	<ul style="list-style-type: none"> Grade 1 Cromer Church 	Prevent loss of church to erosion	No loss	No loss	Loss of church	No loss	(As A)	(As A)	Church lost in years 20-50.	No loss	(As A)	(As A)
Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Prevent loss of community facilities to erosion	No loss	No loss	Loss of Post Office and museum	No loss	(As A)	(As A)	Further loss of facilities	No loss	(As A)	(As A)

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 	Prevent loss of tourist facilities to erosion	No loss	No loss	Loss of seafront properties, promenade and other facilities	No loss	(As A)	(As A)	Loss of main town seafront	No loss	(As A)	(As A)
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 	Prevent loss of recreational facility	No loss	No loss	Structural integrity of pier threatened once promenade lost	Structural integrity of pier threatened by sea level rise and dropping beach levels	(As A)	(As A)	Promenade lost and retreat of coast behind, therefore loss of pier	Structural integrity of pier threatened by sea level rise and dropping beach levels	(As A)	(As A)
		Prevent loss of historical pier	No loss	No loss	Structural integrity of pier threatened once promenade lost	Structural integrity of pier threatened by sea level rise and dropping beach levels	(As A)	(As A)	Promenade lost and retreat of coast behind, therefore loss of pier	Structural integrity of pier threatened by sea level rise and dropping beach levels	(As A)	(As A)
Lifeboat Station	<ul style="list-style-type: none"> Potential loss of access Potential loss of building 	Maintain Lifeboat Station in the town	No loss	No loss	Station is located at end of pier, therefore loss of station	Station is located at end of pier, therefore structural integrity may be threatened	(As A)	(As A)	(Station lost 20-50)	Station is located at end of pier, therefore structural integrity may be threatened	(As A)	(As A)
Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and roads through erosion Promenade contains sewage pumping station 	Maintain services to properties	No loss	No loss	Loss associated with property loss	No loss	(As A)	(As A)	Loss associated with property loss	No loss	(As A)	(As A)
		Maintain pumping station	No loss	No loss	Loss	Possible structural/maintenance problems	(As A)	(As A)	Loss	Possible structural/maintenance problems	(As A)	(As A)
Main Road at Cromer (A149)	<ul style="list-style-type: none"> Potential loss of main A road through erosion 	Maintain communication links within Cromer	No loss	No loss	Many links roads lost	No loss	(As A)	(As A)	Further loss of town centre roads	No loss	(As A)	(As A)
		Maintain major communication link between Cromer and settlements to the east	No loss	No loss	Loss of section of A149	No loss	(As A)	(As A)	Further loss of A149	No loss	(As A)	(As A)
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. 	Prevent loss of historical seawall	No loss	No loss	Loss of seawall	Work required to maintain structural integrity, which may threaten listing	(As A)	(As A)	(Seawall lost 20-50)	Work required to maintain structural integrity, which may threaten listing	(As A)	(As A)

Beach and foreshore	<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 aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Narrower beach	Narrower beach	Beach in retreated position	Little or no beach	(As A)	(As A)	Beach in retreated position	No beach	(As A)	(As A)
Access to beach	<ul style="list-style-type: none"> ▪ Potential loss of access to beach 	Maintain access to beach	No loss	No loss	Access lost with promenade	Access to promenade, but no beach	(As A)	(As A)	(Access lost with promenade 20-50)	Access to promenade, but no beach		

Cromer to Overstrand

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Timber revetments continue to fail over period, with failure of timber groynes in the first half of the period.</i>	<i>Revetments and timber groynes allowed to fail.</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>
Royal Cromer Golf Course	<ul style="list-style-type: none"> Potential loss of golf course through erosion 	Prevent loss of golf course to erosion	Loss of coastal strip of golf course	Loss of coastal strip of golf course	Loss of part of golf course	Loss of part of golf course	(As A)	(As A)	Further loss of golf course	Further loss of golf course	(As A)	(As A)
Cliffs	<ul style="list-style-type: none"> Loss of SAC designated site Continued erosion of cliffs necessary to maintain habitats 	Maintain the existing habitats	Designated as unprotected therefore continued erosion supports this	Designated as unprotected therefore continued erosion supports this	Designated as unprotected therefore continued erosion supports this	Designated as unprotected therefore continued erosion supports this	(As A)	(As A)	Designated as unprotected therefore continued erosion supports this	Designated as unprotected therefore continued erosion supports this	(As A)	(As A)
Cliff-top footpath	<ul style="list-style-type: none"> Potential loss of footpath through erosion 	Maintain footpath throughout frontage	Paston footpath lost, but possibility for re-routing	Paston footpath lost, but possibility for re-routing	Paston footpath lost, but possibility for re-routing	Paston footpath lost, but possibility for re-routing	(As A)	(As A)	Paston footpath lost, but possibility for re-routing	Paston footpath lost, but possibility for re-routing	(As A)	(As A)
Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Dredging of off-shore banks for aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Beach present	Beach present	Beach present, but possible access issues	Beach present, but possible access issues	(As A)	(As A)	Beach present, but possible access issues	Beach present, but possible access issues	(As A)	(As A)
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 	Maintain landscape quality	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	(As A)	(As A)	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	(As A)	(As A)

Overstrand

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>The seawall will fail during this period, together with the timber revetment and groynes.</i>	<i>Seawall, timber revetment and groynes maintained.</i>	<i>No defences.</i>	<i>Seawall, timber revetment and groynes allowed to deteriorate.</i>	<i>(As A)</i>	<i>Seawall maintained to prevent any erosion. Timber revetment replaced by seawall to the south</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>Seawall maintained.</i>
Residential properties	<ul style="list-style-type: none"> Potential loss of housing within the village through Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss 	Prevent loss of residential properties to erosion	Loss of housing	Some housing lost to the south of Overstrand	Further loss of housing	Loss of seafront houses	(As A)	No loss	Further loss of housing within village	Further loss of housing within village	(As A)	No loss
Commercial properties	<ul style="list-style-type: none"> Potential loss of businesses through erosion 	Prevent loss of commercial properties to erosion	Loss of seafront commercial property	No loss	Loss of commercial property	Loss of part of High Street	(As A)	No loss	Loss of commercial property	Loss of commercial property	(As A)	No loss
Heritage sites	<ul style="list-style-type: none"> Potential loss of heritage sites including 2 Grade II properties: 'The Pleasance' and 'Sea Marge' 	Prevent loss of heritage sites to erosion	Loss of 'Sea Marge'	No loss	No further loss in this epoch.	Loss of 'Sea Marge'	(As A)	No loss	Loss of 'The Pleasance'	Loss of 'The Pleasance'	(As A)	No loss
Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion, 	Prevent loss of community facilities to erosion	Loss of school	No Loss	Further loss of community facilities	Loss of school	(As A)	No loss	Further loss of community facilities	Loss of community facilities, buildings and land	(As A)	No loss
Tourist facilities including the promenade	<ul style="list-style-type: none"> Potential loss of recreation sites, including Jubilee Playground, and amenities 	Prevent loss of tourist amenities to erosion	Loss of Jubilee Ground, promenade and seafront facilities	Loss of Jubilee Ground but promenade remains	Further loss of tourist facilities along Overstrand seafront	Loss of promenade and other tourist facilities along Overstrand seafront	(As A)	No loss	Further loss of tourist facilities along Overstrand seafront	Further loss of tourist facilities along Overstrand seafront	(As A)	No loss
Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and roads through erosion 	Maintain services to properties	Services lost with properties	Services lost at southern end	Services lost with properties	Services lost with properties	(As A)	No loss	Services lost with properties	Services lost with properties	(As A)	No loss
		Maintain communication links within Overstrand	Loss of link roads within Overstrand	Only access roads to houses lost, not link roads	Further loss of link roads within Overstrand	Road linkages within village lost with properties	(As A)	No loss	Loss of link roads within Overstrand	Some road linkages within village lost with properties	(As A)	No loss

	<ul style="list-style-type: none"> Pumping Station and sewers 	Maintain pumping station and sewers	High possibility for pumping station being lost	Sewers lost with properties at southern end of village	Pumping station lost	Pumping station lost	(As A)	No loss	(Pumping station lost 20-50)	(Pumping station lost 20-50)	(As A)	No loss
Overstrand Sea Front County Wildlife Site	<ul style="list-style-type: none"> Potential loss of habitat 	Maintain the existing habitats	Ecological interest associated with slumped cliff, therefore status could improve with cliff erosion	No change from present	Ecological interest associated with slumped cliff, therefore status could improve with cliff erosion	Ecological interest associated with slumped cliff, therefore status could improve with cliff erosion	(As A)	No loss of area but not naturally active and slumping	Ecological interest associated with slumped cliff, therefore status could improve with cliff erosion	Ecological interest associated with slumped cliff, therefore status could improve with cliff erosion	(As A)	No loss of area but not naturally active and slumping
Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Maintain access to beach	Beach access at Overstrand lost	No change in beach access from present	No beach access	Beach access at Overstrand lost	(As A)	No change in beach access	No beach access	No beach access	(As A)	No change in beach access
Car park on cliff top	<ul style="list-style-type: none"> Potential loss of car park 	Maintain car park facilities	Car park lost	Car park partly lost	No car park	Car park lost	(As A)	No loss of car park	No car park	No car park	(As A)	No loss of car park

Overstrand to Mundesley

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Continued failure of any existing timber revetment and groynes</i>	<i>Timber revetment and groynes to North of Beach Vale Rd allowed to fail. To south Timber revetment and groynes maintained/ replaced.</i>	<i>No defences.</i>	<i>Timber revetment and groynes allowed to deteriorate and fail.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>
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 	Prevent loss of residential properties to erosion	No loss	No loss	Some property loss to north of Sidestrand	Some property loss to north of Sidestrand	(As A)	As A but greater loss of housing in this period	Some property loss in Sidestrand	Some property loss in Sidestrand	(As A)	(As A)
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 	Prevent loss of residential properties to erosion	Some loss	Some loss	Some loss	Some loss	(As A)	(As A)	Some loss	Some loss	(As A)	(As A)
Community facilities	<ul style="list-style-type: none"> Potential loss of Trimingham church through erosion 	Prevent loss of community facilities to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Church lost	Church lost	(As A)	(As A)
MOD communications facility	<ul style="list-style-type: none"> Potential loss of MOD mobile communications facility 	Prevent loss of MOD communications facility	No loss of MoD facility	No loss of MoD facility	No loss of MoD facility	No loss of MoD facility	(As A)	(As A)	Loss of MoD facility (but could be relocated)	Loss of MoD facility (but could be relocated)	(As A)	(As A)
Coastal Road at Trimingham	<ul style="list-style-type: none"> Loss of coastal road through erosion 	Maintain communication link within Trimingham	Loss of minor access roads	Loss of minor access roads	Loss of section of main coast road	Loss of section of main coast road	(As A)	(As A)	Further loss of main coast road	Further loss of main coast road	(As A)	(As A)
		Maintain major communication link between Trimingham and adjacent towns and villages	Loss of local access roads only	Loss of local access roads only	Loss of section of main coast road	Loss of section of main coast road	(As A)	(As A)	Further loss of main coast road	Further loss of main coast road	(As A)	(As A)
Agricultural land	<ul style="list-style-type: none"> Potential loss of Grade 3 land through erosion 	Prevent loss of farmland to erosion	Loss of farmland	Loss of farmland	Further loss of farmland	Further loss of farmland	(As A)	(As A)	Further loss of farmland	Further loss of farmland	(As A)	(As A)

Cliffs	<ul style="list-style-type: none"> Continual erosion of SSSI designated cliffs necessary to sustain habitats and exposures 	Retain clean exposure of cliff face to maintain the geological study value of the site	Continued erosion maintain geological exposure	Continued erosion maintain geological exposure	Continued erosion maintain geological exposure	Continued erosion maintain geological exposure	(As A)	(As A)	Continued erosion maintain geological exposure	Continued erosion maintain geological exposure	(As A)	(As A)
	<ul style="list-style-type: none"> Continued cliff movements to support cliff face habitat types listed within SSSI designation 	Maintain the existing habitats	Invertebrates associated with crevices and fallen debris therefore erosion should improve status	Invertebrates associated with crevices and fallen debris therefore erosion should improve status	Invertebrates associated with crevices and fallen debris therefore erosion should improve status	Invertebrates associated with crevices and fallen debris therefore erosion should improve status	(As A)	(As A)	Invertebrates associated with crevices and fallen debris therefore erosion should improve status	Invertebrates associated with crevices and fallen debris therefore erosion should improve status	(As A)	(As A)
	<ul style="list-style-type: none"> Potential loss of CWS cliff and cliff top habitats 	Maintain the existing habitats	Possible loss of cliff top habitats due to coastal squeeze	Possible loss of cliff top habitats due to coastal squeeze	Possible loss of cliff top habitats due to coastal squeeze	Possible loss of cliff top habitats due to coastal squeeze	(As A)	(As A)	Possible loss of cliff top habitats due to coastal squeeze	Possible loss of cliff top habitats due to coastal squeeze	(As A)	(As A)
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 aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Beach present	Beach present	Beach present (but limited access)	Beach present (but limited access)	(As A)	(As A)	Beach present (but limited access)	Beach present (but limited access)	(As A)	(As A)
Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Maintain access to beach	Beach access at Vale Rd will remain but works may be required	Beach access at Vale Rd will remain but works may be required	Access lost	Access lost	(As A)	(As A)	No access	No access	(As A)	(As A)
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 	Prevent loss of tourist accommodation to erosion	Some loss of caravan parks	Some loss of caravan parks	Total loss of caravan parks	Total loss of caravan parks	(As A)	(As A)	(Lost in 20-50)	(Lost in 20-50)	(As A)	(As A)
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 	Maintain landscape quality	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	(As A)	(As A)	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	(As A)	(As A)

Mundesley

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Defences will mostly remain effective until the end of the period.</i>	<i>Seawall and groynes maintained.</i>	<i>The seawall will fail at the start of this period.</i>	<i>Seawall (and groynes until redundant) maintained.</i>	<i>Timber revetment, seawall and groynes allowed to fail</i>	<i>Seawall (and groynes until redundant) maintained and extended to south (c. 200m).</i>	<i>No defences.</i>	<i>Seawall allowed to fail.</i>	<i>No defences.</i>	<i>Seawall maintained.</i>
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 	Prevent loss of residential properties to erosion	No loss along main frontage, but loss of houses to north	No loss	Loss of housing	No loss	Loss of housing	No loss	Loss of housing	Loss of housing	Loss of housing	No loss
Commercial properties	<ul style="list-style-type: none"> Potential loss of businesses through erosion 	Prevent loss of commercial properties to erosion	No loss along main frontage, but loss of to north	No loss	Loss of commercial properties	No loss	Loss of commercial properties	No loss	Loss of commercial properties	Loss of commercial properties	Loss of commercial properties	No loss
Heritage Sites	<ul style="list-style-type: none"> Potential loss of important monument sites and Grade II listed buildings 	Prevent loss of heritage sites to erosion	No loss	No loss	All Saint's Church and an important monument site lost	No loss	All Saint's Church and an important monument site lost	No loss	Loss of Brick Kiln Grade II building and important monument site	Loss of heritage sites	Loss of Brick Kiln Grade II building and important monument site	Loss of Brick Kiln Grade II site
Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities, including Mundesley library and Maritime Museum, through erosion 	Prevent loss of community facilities to erosion	Loss of library, but Maritime Museum will remain	No loss	Loss of Museum and other seafront facilities	No loss	Loss of library and museum	No loss	Loss of other facilities	Some loss of community facilities	Loss of other facilities	No loss
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 Need to maintain access to outfall screens for Mundesley Beck 	Maintain services to properties, outfall headworks and access to outfall screens	Services lost with properties	No loss	Services lost with properties	No loss	Services lost with properties	No loss	Services lost with properties	Services lost with properties	Services lost with properties	No loss
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 	Maintain communication link within Mundesley	No loss	No loss	Loss of section of road in town centre	No loss	Loss of road	No loss	Further loss of road	Loss of main links	Loss of main links	No loss

	<ul style="list-style-type: none"> Loss of the cliff top section of road would require significant diversions around the town 	Maintain major communication link between Mundesley and adjacent towns and villages	No loss	No loss	Loss of section of road in town centre	No loss	Loss of road	No loss	Further road loss	Loss of main links	Loss of main links	No loss
Mundesley IRB station	<ul style="list-style-type: none"> Potential impact on launching of the lifeboat 	Maintain effective launching site for lifeboat	Lifeboat station will remain	Lifeboat station will remain	Lifeboat station lost	Lifeboat station will remain, but increased risk of overtopping	Loss of Lifeboat Station	No loss, but possible issue due to narrowing beaches	(Lifeboat station lost 20-50)	Lifeboat station will remain but possible issue with launching due to drop in beach levels	(Lifeboat station lost 20-50)	No loss, but possible issue due to narrowing beaches
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 aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Narrower beach	Narrower beach	Beach in retreated position	No beach	Beach could be present in retreated position	No beach by end of period	Beach in retreated position	Beach in retreated position	Beach in retreated position	No beach

Mundesley to Bacton

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Both the groynes and timber revetment will fail during this period.</i>	<i>Timber revetment and groynes allowed to fail.</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>
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 	Prevent loss of tourist accommodation to erosion	No loss of Hillside Chalet Camp, but partial loss of Mundesley Holiday Camp	No loss of Hillside Chalet Camp, but partial loss of Mundesley Holiday Camp	Camps close to cliff edge	Camps close to cliff edge	(As A)	(As A)	Camps lost	Camps lost	(As A)	(As A)
Heritage sites	<ul style="list-style-type: none"> Potential loss of Saxon Cemetery 	Prevent loss of heritage site to erosion	No loss	No loss	Loss of heritage site	Loss of heritage site	(As A)	(As A)	Heritage site lost in 20-50.	Heritage site lost in 20-50.	(As A)	(As A)
Agricultural land	<ul style="list-style-type: none"> Potential loss of Grade 1 agricultural land through erosion 	Prevent loss of farmland to erosion	Loss of farmland	Loss of farmland	Further loss of farmland	Further loss of farmland	(As A)	(As A)	Further loss of farmland	Further loss of farmland	(As A)	(As A)
Cliffs	<ul style="list-style-type: none"> Continual erosion of SSSI designated cliffs to sustain habitats and exposures 	Retain clean exposure of cliff face to maintain the geological and biological study value of the site	Continued erosion will enhance geological exposure and habitats	Continued erosion will enhance geological exposure and habitats	Continued erosion will enhance geological exposure and habitats	Continued erosion will enhance geological exposure and habitats	(As A)	(As A)	Continued erosion will enhance geological exposure and habitats	Continued erosion will enhance geological exposure and habitats	(As A)	(As A)
Beach and Foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Dredging of off-shore banks for aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Beach similar to today	Beach similar to today	Beach similar to today	Beach similar to today	(As A)	(As A)	Beach present but possible access problems	Beach present but possible access problems	(As A)	(As A)
Paston Way footpath	<ul style="list-style-type: none"> Potential loss of footpath 	Maintain footpath throughout frontage	Loss of Paston way footpath but could be relocated	Loss of Paston way footpath but could be relocated	Loss of Paston way footpath but could be relocated	Loss of Paston way footpath but could be relocated	(As A)	(As A)	Loss of Paston way footpath but could be relocated	Loss of Paston way footpath but could be relocated	(As A)	(As A)
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 	Maintain landscape quality	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	(As A)	(As A)	Landscape maintained through natural cliff erosion	Landscape maintained through natural cliff erosion	(As A)	(As A)

Bacton Gas Terminal

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Both the groynes and timber revetment will fail during this period.</i>	<i>Timber revetment replaced by seawall and groynes maintained.</i>	<i>No defences.</i>	<i>Seawall and timber groynes maintained.</i>	<i>Seawall and timber groynes allowed to fail.</i>	<i>(As A)</i>	<i>No defences.</i>	<i>Measures to reduce erosion rate.</i>	<i>No defences.</i>	<i>Seawall maintained.</i>
Gas Terminal	<ul style="list-style-type: none"> Potential risk of loss or damage to the site and its plant through erosion 	Prevent loss of Gas Terminal	Loss of seaward edge of terminal site	Loss of land but facility will remain	Further loss of terminal site	No loss of terminal but possible issues due to drop in beach volume	Loss of most seaward buildings	No loss	Further loss of terminal site	Loss of seaward edge of terminal site	Further loss of seaward buildings	No loss
		Prevent loss of employment	Loss of seaward edge of terminal site	Loss of land but facility will remain	Further loss of terminal site	No loss of terminal but possible issues due to drop in beach volume	Loss of most seaward buildings	No loss	Further loss of terminal site	Loss of seaward edge of terminal site	Further loss of seaward buildings	No loss
Cliffs	<ul style="list-style-type: none"> Continual erosion of SSSI designated cliffs to sustain habitats and exposures 	Retain clean exposure of cliff face to maintain the geological and biological study value of the site	Cliff erosion will enhance geological exposure and habitats	Cliff line held therefore poor exposure of geology	Cliff erosion will enhance geological exposure and habitats	Cliff line held therefore poor exposure of geology	Cliff erosion will enhance geological exposure and habitats	Cliff line held therefore poor exposure of geology	Cliff erosion will enhance geological exposure and habitats	Cliff erosion will enhance geological exposure and habitats	Cliff erosion will enhance geological exposure and habitats	Cliff line held therefore poor exposure of geology

Bacton and Walcott

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>The timber groynes will fail at the start of this period. The seawall along southern section will fail towards the end of the period.</i>	<i>Seawall and timber groynes maintained.</i>	<i>No defences.</i>	<i>Seawall and timber groynes allowed to deteriorate and fail.</i>	<i>(As A)</i>	<i>Seawall (and groynes until redundant) maintained to prevent any erosion.</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>Seawall maintained.</i>
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 	Prevent damage to/loss of residential properties due to flooding	Properties lost at northern end of frontage	No loss	Further properties lost	Seafront properties lost	(As A)	No loss	Further properties lost	Further seafront properties lost	(As A)	No loss
Commercial properties	<ul style="list-style-type: none"> Risk of flooding to businesses along the coast road 	Prevent damage to/loss of commercial properties due to flooding	Seafront properties lost	No loss	Seafront properties lost	Properties lost	(As A)	No loss	Further seafront properties lost	Further seafront properties lost	(As A)	No loss
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 	Prevent loss of tourist accommodation to erosion	Some loss of land	No loss of caravan parks	Loss of most of caravan parks	Some loss of land	(As A)	No loss	Further loss of caravan parks	Loss of most of caravan parks	(As A)	No loss
Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services through flooding 	Maintain services to properties	Loss of services and access roads	No change from present	Loss of services and access roads	Loss of services and access roads	(As A)	No loss	Further loss of services and access roads	Further loss of services and access roads	(As A)	No loss
B 1159 at Walcott	<ul style="list-style-type: none"> Potential damage to or loss of road through erosion. 	Maintain access to Bacton Gas Terminal	Road lost at Walcott but alternative emergency route possible	No loss	Road lost at Walcott but alternative emergency route possible	Loss of access roads and high risk at Bacton (but possibility of re-routing road)	(As A)	No loss	Road lost at Walcott but alternative emergency route possible	Road lost at Walcott but alternative emergency route possible	(As A)	No loss
	<ul style="list-style-type: none"> Flooding of road through overtopping and spray 	Maintain communication links to adjacent towns and villages	Local roads lost and road between Bacton and Walcott	No loss	(Local roads lost 0-20)	Loss of access roads and high risk at Bacton (but possibility of re-routing road)	(As A)	No loss	(Local roads lost 0-20)	Road lost at Walcott	(As A)	No loss

Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Maintain access to beach	Access lost when sea wall fails but possibility for relocation	No loss	Access lost when sea wall fails but possibility for relocation	Access lost when sea wall fails but possibility for relocation	(As A)	No loss	Access lost when sea wall fails but possibility for relocation	Access lost but possibility for relocation	(As A)	No loss
Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Dredging of offshore banks for aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Beach similar to present	Beach similar to present	Beach similar to present	Narrower beach	(As A)	Narrow beach	Beach similar to present	Beach similar to present	(As A)	No beach

Walcott to Happisburgh

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Timber revetment and groynes will fail.</i>	<i>Timber revetment and groynes allowed to fail.</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>
Holiday and residential properties at Ostend	<ul style="list-style-type: none"> Potential loss of cliff-top properties due to erosion Loss of considerable investment on part of local businesses 	Prevent loss of tourist accommodation to erosion	Loss of some seaward properties	Loss of some seaward properties	Further loss of properties	Further loss of properties	(As A)	(As A)	Further loss of properties	Further loss of properties	(As A)	(As A)
Agricultural land	<ul style="list-style-type: none"> Potential loss of Grade 1 land through erosion 	Prevent loss of farmland to erosion	Loss of farmland	Loss of farmland	Further loss of farmland	Further loss of farmland	(As A)	(As A)	Further loss of farmland	Further loss of farmland	(As A)	(As A)
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 aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) Potential deterioration in condition and appearance of the beach 	Maintain a beach suitable for recreation purposes	Small beach present in retreated position	Small beach present in retreated position	Beach in retreated position	Beach in retreated position	(As A)	(As A)	Beach in retreated position (but access of possible issue)	Beach in retreated position (but access of possible issue)	(As A)	(As A)
Access to the beach	<ul style="list-style-type: none"> Loss of access to the beach at Ostend 	Maintain access to beach	Initially access, but lost with seawall	Initially access, but lost with seawall	No access	No access	(As A)	(As A)	No access	No access	(As A)	(As A)

Happisburgh

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Defences will fail within next 5-10 years.</i>	<i>Rock 'bund' retained but not enhanced.</i>	<i>No defences.</i>	<i>Rock 'bund' allowed to deteriorate.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>
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. 	Prevent loss of residential properties to erosion	Loss of some seafront houses along Beach Road	Loss of some seafront houses along Beach Road	Further loss of seafront houses along Beach Road	Further loss of seafront houses along Beach Road	(As A)	(As A)	Further loss of seafront houses along Beach Road	Further loss of seafront houses along Beach Road	(As A)	(As A)
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 	Prevent loss of tourist accommodation to erosion	Loss of caravan park	Loss of caravan park	(Park lost in 0-20)	(Park lost in 0-20)	(As A)	(As A)	(Park lost in 0-20)	(Park lost in 0-20)	(As A)	(As A)
Listed buildings	<ul style="list-style-type: none"> Potential threat to grade I St Mary's Church and the Grade II Manor House and Hill House Hotel 	Prevent loss of heritage sites to erosion	No loss to building but loss of seafront land	No loss to building but loss of seafront land	Buildings at high risk of erosion	Buildings at high risk of erosion	(As A)	(As A)	Loss of buildings	Loss of buildings	(As A)	(As A)
Cliffs	<ul style="list-style-type: none"> Continual erosion of SSSI designated cliffs necessary to maintain a clear face for geological study 	Continued erosion of cliffs to maintain exposures	Continued erosion will allow exposure of geology	Continued erosion will allow exposure of geology	Continued erosion will allow exposure of geology	Continued erosion will allow exposure of geology	(As A)	(As A)	Continued erosion will allow exposure of geology	Continued erosion will allow exposure of geology	(As A)	(As A)
	<ul style="list-style-type: none"> Erosion of cliffs may lead to outflanking of flood defences to the south 	(Not policy)	-	-	-	-			-	-		
Access to beach	<ul style="list-style-type: none"> Re-establishment of access to beach following its collapse in early 2003 	Maintain access to the beach	Access likely to be difficult	Access likely to be difficult	No access	No access	(As A)	(As A)	No access	No access	(As A)	(As A)
HM Coastguard Rescue facility	<ul style="list-style-type: none"> Potential loss of building through erosion 	Maintain facility.	Loss of building and no access	Loss of building and no access	Loss of building	Loss of building	(As A)	(As A)	Loss of building	Loss of building	(As A)	(As A)

Lifeboat access	<ul style="list-style-type: none"> ▪ Ramp at Happisburgh now derelict forcing RNLI crew to launch at Cart Gap 	Create and maintain a launching facility in the vicinity that meets the needs of the lifeboat crew	No lifeboat access	No lifeboat access	No access	No access	(As A)	(As A)	No access	No access	(As A)	(As A)
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 aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) ▪ Potential deterioration in condition and appearance of the beach 	Maintain a beach suitable for recreation purposes	Narrow beach	Narrow beach	Beach, but access issues	Beach, but access issues	(As A)	(As A)	Beach, but access issues	Beach, but access issues	(As A)	(As A)

Happisburgh to Cart Gap (start of seawall)

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>No defences.</i>	No defences.	<i>No defences.</i>	No defences.	(As A)	(As A)	<i>No defences.</i>	No defences.	(As A)	(As A)
Agricultural land	<ul style="list-style-type: none"> Potential loss of Grade 1 land through erosion 	Prevent loss of farmland to erosion	The seawall and groynes will remain effective along most the frontage.	Loss of farmland	Loss of farmland	Loss of farmland	(As A)	(As A)	Loss of farmland	Loss of farmland	(As A)	(As A)

Cart Gap to Winterton Dunes

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>The seawall, reefs and groynes will remain effective.</i>	<i>Offshore breakwaters and seawall maintained, groynes replaced and continued beach recharge.</i>	<i>Along Sea Palling, reefs and seawall will remain, but to south seawall and groynes will fail at start of the period.</i>	<i>Offshore reefs maintained, seawall maintained throughout frontage, groynes replaced and continued beach recharge.</i>	<i>Retired defence line constructed (3 possible location options to be considered), and reefs, seawall and groynes allowed to deteriorate/ fail.</i>	<i>Seawall maintained to prevent flooding.</i>	<i>No defence to south but reefs will probably remain.</i>	<i>Retired defence line constructed (3 possible location options to be considered), and reefs, seawall and groynes allowed to deteriorate/ fail.</i>	<i>Retired defence line (3 possible location options to be considered).</i>	<i>Seawall maintained to prevent flooding.</i>
The Bush Estate, Eccles	<ul style="list-style-type: none"> Potential damage/ loss of housing– 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 	Prevent loss of/damage to properties due to flooding	No loss	No loss	No loss	No loss	Loss (or partial loss) under 3 scenarios	No loss	Loss of Bush Estate	Loss (or partial loss) under 3 scenarios	Loss (or partial loss) under 3 scenarios	No loss
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 	Maintain car parking facilities	No loss	No loss	No loss	No loss	Loss under 3 scenarios	No loss	Loss	Loss under 3 scenarios	Loss under 3 scenarios	No loss
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 	Maintain car parking facilities	No loss	No loss	No loss	No loss	Loss	No loss	Loss	Loss	Loss	No loss
Marram Hills CWS and Waxham Sands Holiday Park CWS	<ul style="list-style-type: none"> Potential loss of or damage to habitats 	Maintain the existing habitats	No loss of dunes behind the seawall and reefs will help maintain a beach in front	No loss of dunes behind the seawall and reefs, together with recharge will help maintain a beach and embryo dunes in front	No loss of dunes along the Sea Palling stretch, but risk of breach of dunes to south, once seawall fails	No loss of dunes behind the seawall and reefs, together with recharge will help maintain a beach and embryo dunes in front	Potential recreation of beach-dune system in retreated position, but net loss of dune volume expected	No loss of dunes behind the seawall but, without recharge, beach would narrow and unlikely to sustain dune in front of seawall.	Potential recreation of beach-dune system in retreated position, but net loss of dune volume expected	Potential recreation of beach-dune system in retreated position, but net loss of dune volume expected	Potential recreation of beach-dune system in retreated position	No loss of dunes behind the seawall but, without recharge, it would be difficult to hold a beach in front of the seawall.
Access to the beach	<ul style="list-style-type: none"> Potential loss of access through erosion or management measures 	Maintain access to beach	No change to access	No change to access	No change to access	No change to access	Present access lost, but possible relocation	No loss	Present access lost, but possible relocation	Present access lost, but possible relocation	Present access lost, but possible relocation	No loss

	<ul style="list-style-type: none">▪ Informal accesses through dune system reduce their effectiveness											
Residential properties at Sea Palling	<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	Prevent damage to/loss of residential properties due to flooding	No loss	No loss	No loss	No loss	Lost under retired lines 2 and 3 (*possibly retained under retired line 1)	No loss	Loos/damage to housing through flooding	Lost under retired lines 2 and 3 (*possibly retained under retired line 1)	Lost under retired lines 2 and 3 (*possibly retained under retired line 1)	No loss
Commercial properties at Sea Palling	<ul style="list-style-type: none">▪ Potential damage to or loss of businesses through flooding	Prevent damage to/loss of commercial properties due to flooding	No loss	No loss	No loss	No loss	Lost under retired lines 2 and 3 (*possibly retained under retired line 1)	No loss	Loss/damage to properties through uncontrolled flooding	Lost under retired lines 2 and 3 (*possibly retained under retired line 1)	Lost under retired lines 2 and 3 (*possibly retained under retired line 1)	No loss
Infrastructure at Sea Palling	<ul style="list-style-type: none">▪ Potential for damage to or loss of services and amenities through flooding	Maintain services to properties	No loss	No loss	No loss	No loss	Lost under retired lines 2 and 3 (*possibly retained under retired line 1)	No loss	Loss/damage to services through uncontrolled flooding	Lost under retired lines 2 and 3 (*possibly retained under retired line 1)	Lost under retired lines 2 and 3 (*possibly retained under retired line 1)	No loss
Sea Palling IRB station	<ul style="list-style-type: none">▪ Potential impact on launching of the lifeboat	Maintain effective launching site for lifeboat	No loss	No loss	No loss	No loss	Loss under 3 scenarios	No loss	Unlikely to be maintained in current position	Loss under 3 scenarios	(Lost under 3 scenarios 20-50)	No loss
Beach and Foreshore	<ul style="list-style-type: none">▪ Dredging of off-shore banks for aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>)▪ Potential deterioration in condition and appearance of the beach▪ Potential loss of Blue Flag award	Maintain a beach suitable for recreation purposes	Narrowing beach	Beach present (With recharge)	Narrowing beach	Beach present (With recharge)	Loss under 3 scenarios – potential for beach in a retreated position, but different form	Without recharge beach would narrow	Beach likely in some form, but different from today	Loss under 3 scenarios – potential for beach in a retreated position, but different form to today	Potential for beach in a retreated position, but different form	More difficult to hold beach
Residential properties at Waxham	<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	Prevent damage to/loss of residential properties due to flooding	No loss	No loss	High risk of damage to/ loss of properties due to uncontrolled flooding	No loss	Loss under 3 scenarios	No loss	Damage to/ loss of properties due to flooding	Loss under 3 scenarios	(Lost under 3 scenarios 20-50)	No loss

	<ul style="list-style-type: none"> Standard of flood protection may inhibit further development 											
Community facilities at Waxham	<ul style="list-style-type: none"> Potential loss of Waxham church through erosion 	Prevent loss of church to erosion	No loss	No loss	Damage to/ loss of properties due to flooding	No loss	Loss under 3 scenarios	No loss	Damage to/ loss of properties due to flooding	Loss under 3 scenarios	(Lost under 3 scenarios 20-50)	No loss
Waxham Barn	<ul style="list-style-type: none"> Potential risk to Grade 1 listed building 	Prevent damage to/loss of Waxham Barn due to flooding	No loss	No loss	Damage to/ loss of property due to flooding	No loss	Loss under 3 scenarios	No loss	Damage to/ loss of property due to flooding	Loss under 3 scenarios	(Lost under 3 scenarios 20-50)	No loss
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. The integrity of the ness is dependent on a continuing flow of sediment from the north 	Maintain the existing habitats	Potential reduction in dune area both due to natural ness fluctuations and reduced sediment feed	Potential loss of dune area due to ness fluctuation, but sediment supply via recharge	Dune erosion likely due to breaching to north	Potential loss of dune area due to ness fluctuation, but sediment supply via recharge to the north at Sea Palling	High risk of breach and erosion along the narrowest sections once seawall is removed, but may allow roll back of dunes	The short stretch of seawall will prevent dune rollback but at the end of the wall there may be scour and risk of breach in the case of a storm	Dune erosion likely due to breaching to north	High risk of breach and erosion	High risk of breach and erosion	The short stretch of seawall will prevent dune rollback but at the end of the wall there may be scour and risk of breach in the case of a storm. Without recharge to the north there would be a limited input to the dune system and therefore erosion is a high risk.
	<ul style="list-style-type: none"> Loss of County Wildlife Site and NNR Loss of unique landscape Interpretation of coastal processes assumed in preparing the CHaMP for Winterton Ness 	Maintain natural geomorphological processes	Natural processes allowed to take place	Natural processes allowed to take place	Natural processes allowed to take place	Natural processes allowed to take place	Natural processes allowed to take place	The short stretch of seawall will restrict the natural response of the dunes and the system as a whole will not be a naturally functioning one	(see Happisburgh to Winterton Dunes)	Natural processes allowed to take place	Natural processes allowed to take place	The short stretch of seawall will restrict the natural response of the dunes and the system as a whole will not be a naturally functioning one
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 	Maintain landscape quality	No change from present condition	No change from present condition	Uncontrolled flooding may be detrimental to landscape	No change from present condition	Once retired line option constructed a more naturally functioning coast will develop	No change from present condition	Uncontrolled flooding may be detrimental to landscape	Once retired line option constructed a more naturally functioning coast will develop	More naturally functioning coast	No change from present condition, but narrowing beach and possible need for increased defences

Happisburgh to Winterton Broadlands

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	(see Happisburgh to Winterton Dunes)	(see Happisburgh to Winterton Dunes)	(see Happisburgh to Winterton Dunes)	(see Happisburgh to Winterton Dunes)	(see Happisburgh to Winterton Dunes)	(see Happisburgh to Winterton Dunes)	(see Happisburgh to Winterton Dunes)	(see Happisburgh to Winterton Dunes)	(see Happisburgh to Winterton Dunes)	(see Happisburgh to Winterton Dunes)
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 	Prevent damage to/loss of residential properties due to flooding	No loss	No loss	High risk of flooding and uncontrolled inundation	No loss	Loss varies under 3 scenarios, but proposed that Hickling, Potter Heigham and West Somerton probably would be protected	No loss	High risk of flooding	Loss varies under 3 scenarios, but proposed that Hickling, Potter Heigham and West Somerton probably would be protected	Loss varies under 3 scenarios, but proposed that Hickling, Potter Heigham and West Somerton probably would be protected	No loss
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 	Prevent damage to/loss of commercial properties due to flooding	No loss	No loss	High risk of flooding and uncontrolled inundation	No loss	Loss varies under 3 scenarios, but proposed that Hickling, Potter Heigham and West Somerton probably would be protected	No loss	High risk of flooding	Loss varies under 3 scenarios, but proposed that Hickling, Potter Heigham and West Somerton probably would be protected	Loss varies under 3 scenarios, but proposed that Hickling, Potter Heigham and West Somerton probably would be protected	No loss
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 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 	Maintain the existing habitats	No change from present	No change from present	Total change in habitats –potential for increased biodiversity	No change from present	Total change in habitats –potential for increased biodiversity (varies under 3 scenarios)	No loss	Total change in habitats –potential for increased biodiversity	Total change in habitats –potential for increased biodiversity (varies under 3 scenarios)	Total change in habitats –potential for increased biodiversity (varies under 3 scenarios)	No loss

Agricultural land	<ul style="list-style-type: none"> Potential damage to or ultimate loss of land through flooding 	Prevent damage to/loss of farmland due to flooding	No loss	No loss	High risk of flooding and uncontrolled inundation	No loss	Loss varies under 3 scenarios	No loss	High risk of flooding	Loss varies under 3 scenarios	Loss varies under 3 scenarios	No loss
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 	Prevent damage to/ loss of tourist facilities due to flooding	No loss	No loss	High risk of flooding and uncontrolled inundation	No loss	Loss varies under 3 scenarios, but Hickling, Potter Heigham and West Somerton would be protected	No loss	High risk of flooding	Loss varies under 3 scenarios, but Hickling, Potter Heigham and West Somerton would be protected	Loss varies under 3 scenarios, but Hickling, Potter Heigham and West Somerton would be protected	No loss
Windmills and other historic buildings/ heritage sites	<ul style="list-style-type: none"> Loss/ damage to historic properties/ heritage sites due to inundation including Grade II and II* properties and monuments of high importance 	Prevent damage to/loss of historical buildings/ Heritage sites due to flooding	No loss	No loss	High risk of flooding and uncontrolled inundation	No loss	Loss varies under 3 scenarios	No loss	High risk of flooding	Loss varies under 3 scenarios	Loss varies under 3 scenarios	No loss
Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and roads through erosion 	Maintain services to properties	No loss	No loss	High risk of flooding and uncontrolled inundation	No loss	Loss varies under 3 scenarios, but Hickling, Potter Heigham and West Somerton would be protected	No loss	High risk of flooding	Loss varies under 3 scenarios, but Hickling, Potter Heigham and West Somerton would be protected	Loss varies under 3 scenarios, but Hickling, Potter Heigham and West Somerton would be protected	No loss
B1159 Coast road	<ul style="list-style-type: none"> Potential loss of road through inundation 	Maintain communication link for villages between Happisburgh and Winterton	No loss	No loss	High risk of flooding and uncontrolled inundation	No loss	Loss varies under 3 scenarios	No loss	High risk of flooding	Loss varies under 3 scenarios	Loss varies under 3 scenarios	No loss
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 	Maintain landscape quality	No change from present condition	No change from present condition	Uncontrolled flooding may be detrimental to landscape	No change from present condition	Once retired line option constructed a more naturally functioning coast will develop	No change from present condition	Uncontrolled flooding may be detrimental to landscape	Once retired line option constructed a more naturally functioning coast will develop	More naturally functioning coast	No change from present condition, but narrowing beach and possible need for increased defences

Winterton

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	No shoreline defences	Seawall not maintained, but possible construction of flood embankment just behind dune belt (in event of seawall breach) and dune management.	No shoreline defences	Flood embankment maintained, (if required) to prevent flooding, and dune management.	Flood defences as part of retired defence line to north.	(As A)	No defences	Flood defences as part of retired defence line to north.	Flood defences as part of retired defence line to north.	Flood embankment maintained (if required) to prevent flooding and dune management.
Residential properties	<ul style="list-style-type: none"> Potential damage to or loss of housing through flooding Concern over reduced protection due to eroding Anxiety and stress to owners and occupiers facing loss Impact on sustainability of the village community Standard of flood protection may inhibit further development Complaints from residents that windblown sand is migrating onto property (<i>Non-policy issue</i>) 	Prevent damage to/loss of residential properties due to flooding	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	(As A)	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	Area protected under 3 scenarios	No loss – protection provided by natural dune defence, although dune width may be reduced in front of village.
Recreation and Tourist facilities	<ul style="list-style-type: none"> Potential damage to or loss of shops, cafes, pub and holiday accommodation through flooding 	Prevent loss of or damage to tourist facilities due to flooding	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	(As A)	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	No loss – protection provided by natural dune defence, although dune width may be reduced in front of village.
CWSs	<ul style="list-style-type: none"> Potential damage if coastal defences breached 	Maintain the existing habitats	No change from present	No change from present	Probably lost	Probably lost	(As A)	(As A)	Lost	Lost	(As A)	(As A)

Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Prevent loss of community facilities to erosion	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	(As A)	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	No loss – protection provided by natural dune defence, although dune width may be reduced in front of village.
Coastguard Station	<ul style="list-style-type: none"> Mass movement of the Ness or beach erosion could have an adverse effect on the Station 	Removed Winter 2003/4	-	-	-	-	-	-	-	-	-	-
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 	Maintain services to properties	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	(As A)	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	No loss – protection provided by natural dune defence. Flood protection provided under 3 scenarios	No loss – protection provided by natural dune defence, although dune width may be reduced in front of village.
		Prevent loss of /damage to cable landing site	No loss to site, but possible damage to cables due to dune erosion	No loss to site, but possible damage to cables due to dune erosion	No loss to site, but possible damage to cables due to dune erosion	No loss to site, but possible damage to cables due to dune erosion	No loss to site, but possible damage to cables due to dune erosion	No loss to site, but possible damage to cables due to dune erosion	No loss to site, but possible damage to cables due to dune erosion	No loss to site, but possible damage to cables due to dune erosion	No loss to site, but possible damage to cables due to dune erosion	No loss to site, but possible damage to cables due to dune erosion
Beach and foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) Potential deterioration in condition and appearance of the beach 	Maintain a beach suitable for recreation purposes	Beach present	Beach present	Beach present	Beach present	Beach present	(As A)	Beach present	Beach present	Beach present	Beach present
Access to beach	<ul style="list-style-type: none"> Loss of access to beach through erosion, flood damage or management measures 	Maintain access to beach	Access possible	Access possible	Possible loss of access due to dune erosion, but provision of alternative	Possible loss of access due to dune erosion, but provision of alternative	Possible loss of access due to dune erosion, but provision of alternative	Possible loss of access due to dune erosion, but provision of alternative	Possible loss of access due to dune erosion, but provision of alternative	Possible loss of access due to dune erosion, but provision of alternative	Possible loss of access due to dune erosion, but provision of alternative	Possible loss of access due to dune erosion, but provision of alternative

Winterton to Newport

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	No defences	No defences	No defences	No defences	(As A)	(As A)	No defences	No defences	(As A)	(As A)
Winterton Valley Estate	<ul style="list-style-type: none"> Potential loss of tourist accommodation through erosion 	Prevent loss of tourist accommodation to erosion	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	No loss – protection provided by natural dune defence	(As A)	(As A)	Low risk of loss – protection provided by natural dune defence	Low risk of loss – protection provided by natural dune defence	(As A)	(As A)
Holiday development at Hemsby	<ul style="list-style-type: none"> Potential erosion of Hemsby Marrams which provides natural protection to the village 	Prevent loss of tourist facilities to erosion	No loss of holiday development	No loss of holiday development	Some loss of seafront developments	Some loss of seafront developments	(As A)	(As A)	Further loss of seafront developments	Further loss of seafront developments	(As A)	(As A)
Hemsby Marrams	<ul style="list-style-type: none"> Potential erosion of dunes and loss of habitat 	Maintain the existing habitats	Erosion of dunes will continue	Erosion of dunes will continue	Possible loss of dunes	Possible loss of dunes	(As A)	(As A)	Loss of dunes and potential reactivation of sand cliffs	Loss of dunes and potential reactivation of sand cliffs	(As A)	(As A)
Beach and foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) Potential deterioration in condition and appearance of the beach 	Maintain a beach suitable for recreation purposes	Beach present	Beach present	Beaches likely to be similar to today	Beaches likely to be similar to today	(As A)	(As A)	Beaches likely to be similar to today	Beaches likely to be similar to today	(As A)	(As A)

Hemsby to California

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	No defences	No defences	No defences	No defences	(As A)	(As A)	No defences	No defences	(As A)	(As A)
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 	Prevent loss of residential properties to erosion	Houses should not be affected by erosion	Houses should not be affected by erosion	Most seaward houses lost	Most seaward houses lost	(As A)	(As A)	Further houses lost	Further houses lost	(As A)	(As A)
Tourism related property and facilities	<ul style="list-style-type: none"> Potential loss of cliff top amenities and businesses through erosion 	Prevent loss of tourist facilities to erosion	No loss	No loss	Some loss of property	Some loss of property	(As A)	(As A)	Further loss of property	Further loss of property	(As A)	(As A)
Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Prevent loss of community facilities to erosion	No loss	No loss	Some loss but majority is tourist related facilities	Some loss but majority is tourist related facilities	(As A)	(As A)	Further loss	Further loss	(As A)	(As A)
Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion 	Maintain services to properties	Losses related to holiday village	Losses related to holiday village	Losses related to holiday village	Losses related to holiday village	(As A)	(As A)	Further losses related to holiday village	Further losses related to holiday village	(As A)	(As A)
		Maintain communication link within Newport	Main linkages not lost, only access roads	Main linkages not lost, only access roads	Some loss of linkage roads	Some loss of linkage roads	(As A)	(As A)	Further loss of linkage roads	Further loss of linkage roads	(As A)	(As A)
Access to beach	<ul style="list-style-type: none"> Potential loss of access to beach 	Maintain access to beach	Access to beach should remain	Access to beach should remain	Access lost, but could be relocated	Access lost, but could be relocated	(As A)	(As A)	Access lost, but could be relocated	Access lost, but could be relocated	(As A)	(As A)

California

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Rock berm will remain in place.</i>	<i>Rock bund maintained.</i>	<i>The rock berm will remain for much of this period</i>	<i>Rock bund allowed to deteriorate.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences</i>	<i>Rock bund allowed to deteriorate.</i>	<i>(As A)</i>	<i>(As A)</i>
Residential properties at 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 	Prevent loss of residential properties to erosion	Risk of loss of most seaward properties	Risk of loss of most seaward properties	Further loss of seafront properties	Further loss of seafront properties	(As A)	(As A)	Further loss of seafront properties	Further loss of seafront properties	(As A)	(As A)
Holiday Developments at California	<ul style="list-style-type: none"> Potential loss of tourist accommodation and supporting infrastructure through erosion 	Prevent loss of tourist accommodation to erosion	Some land lost, but not main sites	Some land lost, but not main sites	Loss of some sites	Loss of some sites	(As A)	(As A)	Further loss of some sites	Further loss of some sites	(As A)	(As A)
Recreational and Tourist facilities	<ul style="list-style-type: none"> Potential loss of cliff top amenities and businesses through erosion 	Prevent loss of tourist facilities to erosion	Facilities should not be affected	Facilities should not be affected	Loss of some sites and facilities	Loss of some sites and facilities	(As A)	(As A)	Loss of some sites and facilities	Loss of some sites and facilities	(As A)	(As A)
County Wildlife Site (CWS)	<ul style="list-style-type: none"> Potential risk of damage through erosion to heath land along cliff top 	Maintain the existing habitats	Minimum loss of CWS site	Minimum loss of CWS site	Some loss of northern end of site, but no loss to south	Some loss of northern end of site, but no loss to south	(As A)	(As A)	Loss of site	Loss of site	(As A)	(As A)
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 	Maintain services to properties	No loss	No loss	Loss of services associated with property loss	Loss of services associated with property loss	(As A)	(As A)	Loss of services associated with property loss	Loss of services associated with property loss	(As A)	(As A)
	<ul style="list-style-type: none"> Potential loss of local link roads 	Maintain communication link between Scratby and California	Loss of section of road between Scratby and California	Loss of section of road between Scratby and California	Loss of road	Loss of road	(As A)	(As A)	Road lost	Road lost	(As A)	(As A)
Beach and foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for aggregate – concern about the impact on beach levels (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Beach present	Beach present	Beach present	Beach present	(As A)	(As A)	Beach present in retreated position	Beach present in retreated position	(As A)	(As A)

	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach 											
Access to beach at California Gap	<ul style="list-style-type: none"> Loss of access to beach through erosion or management measures 	Maintain access to beach	Access likely to remain	Access maintained	Loss of access, but alternative could be provided	Loss of access, but alternative could be provided	(As A)	(As A)	Loss of access, but alternative could be provided	Loss of access, but alternative could be provided	(As A)	(As A)

Caister North

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	Seawall, rock reefs and groynes will remain.	Seawall, reefs and groynes maintained.	Seawall will fail by the end of this period, but rock groynes and reefs will remain.	Seawall, reefs and groynes maintained.	Seawall, reefs and groynes allowed to fail.	(As A)	Rock reefs and groynes deteriorate.	Seawall, reefs and groynes allowed to deteriorate.	No defences.	Seawall, reefs and groynes maintained.
Residential properties	<ul style="list-style-type: none"> Loss of properties through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss Sustainability of continued protection 	Prevent loss of residential properties to erosion	No loss	No loss	Loss of properties in North Caister	No loss	Loss of properties in North Caister by the end of the period	No loss	Loss of properties	Loss of properties at northern end of the frontage	Further loss of properties along the northern section	No loss
Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Prevent loss of community facilities to erosion	No loss	No loss	Loss of some properties but not in main part of town	No loss	Loss of some properties along the seafront but not in main part of town	No loss	Loss of some properties but not in main part of town	Loss of some properties but not in main part of town	Loss of some properties but not in main part of town	No loss
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 	Prevent loss of tourist accommodation to erosion	No loss	No loss	Loss of properties	No loss	Loss of seafront properties	No loss	Loss of seafront properties	Loss of a number of caravan parks	Further loss of seafront properties	No loss
Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Dredging of off-shore banks for aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Beach present	Beach present	Beach present	Beach present	Beach present	Beach present	Beach present in retreated position.	Beach present – although initially more narrow once reefs and groynes reduce in trapping-efficiency.	Beach present	Beach present
Access to beach	<ul style="list-style-type: none"> Loss of access to beach through erosion or management measures 	Maintain access to beach	Access will remain	Access will remain	Access lost but provision of alternative	Access will remain	Access lost but provision of alternative	Access will remain	Access lost but provision of alternative	Access will remain – or provision of alternative	Access lost but provision of alternative	Access will remain

Caister and Great Yarmouth North Denes

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Seawall will remain.</i>	<i>Set-back concrete wall retained.</i>	<i>Seawall will remain.</i>	<i>Set-back concrete wall retained.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>Seawall reaches end of residual life.</i>	<i>Set-back concrete wall retained but reaches end of residual life. Possible secondary flood defence at 'Gt. Yarmouth and Caister' golf course</i>	<i>Set-back concrete wall allowed to fail to North of CG Station. Possible secondary flood defence at Gt. Yarmouth and Caister golf course.</i>	<i>(As A)</i>
Residential properties	<ul style="list-style-type: none"> Loss of properties through erosion Devaluation of neighbouring property Anxiety and stress to owners and occupiers facing loss Sustainability of continued protection 	Prevent loss of residential properties to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Area of uncertainty due to fluctuation of sea level. High risk of breach and erosion should the wall be exposed and fail.	Area of uncertainty due to fluctuation of sea level. High risk of dune erosion should the wall be exposed and fail.	Area of uncertainty due to fluctuation of sea level. Once wall fails there will be some loss of seafront properties along the northern section where dunes are narrowest.	(As A)
Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Prevent loss of community facilities to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Area of uncertainty due to fluctuation of sea level. High risk of breach and erosion should the wall be exposed and fail.	Area of uncertainty due to fluctuation of sea level. High risk of dune erosion should the wall be exposed and fail.	Area of uncertainty due to fluctuation of sea level. Once wall fails there will be some loss of seafront properties along the northern section where	(As A)

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 	Prevent loss of tourist accommodation to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Area of uncertainty due to fluctuation of ness feature. High risk of breach and erosion should the wall be exposed and fail.	Area of uncertainty due to fluctuation of ness feature. High risk of dune erosion should the wall be exposed and fail.	Area of uncertainty due to fluctuation of ness feature. Once wall fails there will be loss of seafront caravan parks along the northern section	(As A)
Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of amenities and businesses through erosion 	Prevent loss of tourist facilities to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Area of uncertainty due to fluctuation of ness feature. High risk of breach and erosion should the wall be exposed and fail.	Area of uncertainty due to fluctuation of ness feature. High risk of dune erosion should the wall be exposed and fail.	Area of uncertainty due to fluctuation of ness feature. Once wall fails there will be loss of seafront facilities along the northern section	(As A)
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 	Maintain the existing habitats	Minimum loss of CWS site	Minimum loss of CWS site	Some loss at northern end of site, but integrity of site maintained	Some loss at northern end of site, but integrity of site maintained	(As A)	(As A)	Loss of CWS site likely	Loss of CWS site likely	Loss of CWS site likely	(As A)
Caister Volunteer Rescue Service	<ul style="list-style-type: none"> Potential impact on launching of the lifeboat 	Maintain effective launching site for lifeboat	Natural fluctuation of dunes, but no loss expected to building or access.	Natural fluctuation of dunes, but no loss expected to building or access.	Natural fluctuation of dunes, but no loss expected to building or access.	Natural fluctuation of dunes, but no loss expected to building or access.	Natural fluctuation of dunes, but no loss expected to building or access.	Natural fluctuation of dunes, but no loss expected to building or access.	Natural fluctuation of dunes, but beach expected to remain healthy.	Natural fluctuation of dunes, but beach expected to remain healthy.	Natural fluctuation of dunes, but beach expected to remain healthy.	Natural fluctuation of dunes, but beach expected to remain healthy.

North Denes SSSI/SPA	<ul style="list-style-type: none"> Integrity of the North Denes SSSI/SPA and impact of any future management regime - high vulnerability to any disturbance by works for coastal defence 	Maintain the existing habitats	Beach present	Beach present	Beach present – no disturbance from defence works	Beach present – no disturbance from defence works	(As A)	(As A)	Beach present, but narrower along northern end.	Beach present, but narrower along northern end. Subject to natural fluctuations, but input of sediment from allowing defences to fail further north. Possible impact of constructing flood defence.	Beach present, but narrower along northern end. Subject to natural fluctuations, but input of sediment from allowing defences to fail further north. Possible impact of constructing flood defence.	(As A)
Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach Dredging of off-shore banks for aggregate – concern about potential impact on beach levels (<i>Non-policy issue</i>) Continued accretion of dune system which can not migrate landwards because of development 	Maintain a beach suitable for recreation purposes	Beach present	Beach present	Beach present although narrower	Beach present although narrower	(As A)	(As A)	Beach present along most of frontage, but narrower at northern end	Beach present along most of frontage, but narrower at northern end	Beach present	(As A)
Access to beach	<ul style="list-style-type: none"> Loss of access to beach through erosion or management measures 	Maintain access to beach	No loss	No loss	No loss	No loss	(As A)	(As A)	No loss	No loss	Northern access may need to be relocated	(As A)
Caravan parks at North Denes	<ul style="list-style-type: none"> Loss of caravan parks Loss of investment on part of local businesses 	Prevent loss of tourist accommodation to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	No loss	No loss	(As A)	(As A)
Great Yarmouth and Caister Golf Club	<ul style="list-style-type: none"> Loss of golf course through erosion 	Prevent loss of golf course to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	No loss	No loss	(As A)	(As A)
Great Yarmouth Race Course	<ul style="list-style-type: none"> Loss of the race course through erosion 	Prevent loss of race course to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	No loss	No loss	(As A)	(As A)

Great Yarmouth

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	Seawall and groynes will remain. Harbour Arm will remain as a port structure.	Seawall, Harbour arm (and groynes until redundant) maintained to prevent erosion.	Seawall and groynes fail towards the start of this period. Harbour Arm will remain as a port structure.	Seawall, Harbour arm (and groynes until redundant) maintained to prevent erosion.	(As A)	(As A)	Harbour Arm will remain as a port structure.	Seawall and Harbour arm maintained to prevent erosion.	(As A)	(As A)
Residential properties	<ul style="list-style-type: none"> Potential loss of or damage to housing through erosion or flooding 	Prevent damage to/loss of residential properties due to flooding	No loss	No loss	Increasing risk of erosion and flooding to seafront properties	No loss	(As A)	(As A)	High risk of erosion and flooding to seafront properties	No loss	(As A)	(As A)
Commercial properties	<ul style="list-style-type: none"> Potential loss of or damage to businesses through erosion 	Prevent damage to/loss of commercial properties due to flooding	No loss	No loss	Increasing risk of erosion and flooding to seafront properties	No loss	(As A)	(As A)	High risk of erosion and flooding to seafront properties	No loss, but increased risk of overtopping	(As A)	(As A)
Heritage sites	<ul style="list-style-type: none"> Potential loss of heritage sites including monuments of high importance and Grade I, II* and II properties 	Prevent loss of heritage sites to erosion	No loss	No loss	Loss of some seafront heritage sites	No loss	(As A)	(As A)	Further loss of seafront heritage sites	No loss	(As A)	(As A)
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 	Protect land to allow for development potential. Once developed, prevent damage/loss of commercial properties due to flooding	No loss	No loss	Risk of erosion and flooding	No loss	(As A)	(As A)	High risk of erosion and flooding	No loss, but increased risk of overtopping	(As A)	(As A)
Existing Port	<ul style="list-style-type: none"> Need to continue to operate Flooding causes operational problems 	Ensure port can continue to operate	No issue with port operation with respect to defences	No issue with port operation with respect to defences	No issue with port operation with respect to defences	No issue with port operation with respect to defences	(As A)	(As A)	No issue with port operation with respect to defences	No issue with port operation with respect to defences	(As A)	(As A)
Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites, accommodation and activities 	Prevent loss of tourist facilities to erosion	No loss	No loss	Risk of erosion and flooding to seafront facilities	No loss	(As A)	(As A)	Increased risk of erosion and flooding to seafront facilities	No loss, but increased risk of overtopping for properties on promenade	(As A)	(As A)
Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion 	Maintain services to properties	No loss	No loss	Risk of erosion and flooding	No loss	(As A)	(As A)	Increased risk of erosion and flooding	No loss	(As A)	(As A)

	<ul style="list-style-type: none"> Potential loss of beach road 	Prevent loss of communication link along the beach frontage	No loss	No loss	Risk of erosion and flooding to beach road	No loss	(As A)	(As A)	Increased risk of erosion and flooding to beach road	No loss	(As A)	(As A)
Beach and foreshore	<ul style="list-style-type: none"> Potential deterioration in condition and appearance of the beach which has a seaside Dredging of off-shore banks for marine aggregate (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Deterioration of dunes and beach loss at southern end	Deterioration of dunes and beach loss at southern end	Further deterioration of dunes and beach loss at southern end	Further deterioration of dunes and beach loss at southern end	(As A)	(As A)	Loss of beach along the southern section and narrowing along the northern section	Loss of beach along the southern section and narrowing along the northern section	(As A)	(As A)
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 (<i>Non-policy issue</i>) 	<i>To be considered at policy stage as a sensitivity test</i>										

Gorleston

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Seawall will remain, but groynes fail during this period. Harbour Arm will remain as a port structure.</i>	<i>Seawall, Harbour arm and reefs maintained, with recharge, to prevent erosion.</i>	<i>Seawall will fail towards the start of the period. Harbour Arm will remain as a port structure.</i>	<i>Seawall, Harbour arm and reefs maintained to prevent erosion.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>Harbour Arm will remain as a port structure.</i>	<i>Seawall and Harbour arm maintained to prevent erosion. Reefs will remain.</i>	<i>(As A)</i>	<i>(As A)</i>
Port Entrance	<ul style="list-style-type: none"> Need to protect structures 	Maintain an entrance to the port	No issue with port operation with respect to defences	No issue with port operation with respect to defences	No issue with port operation with respect to defences	No issue with port operation with respect to defences	(As A)	(As A)	No issue with port operation with respect to defences	No issue with port operation with respect to defences	(As A)	(As A)
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 	Prevent loss of/damage to properties due to flooding	No loss	No loss	Loss of most seaward properties	No loss	(As A)	(As A)	Further loss of most seaward properties	No loss	(As A)	(As A)
Commercial properties	<ul style="list-style-type: none"> Potential loss of, or damage to, businesses through erosion 	Prevent loss of commercial properties to erosion	No loss	No loss	No loss to main town, but potential loss of properties near pier	No loss	(As A)	(As A)	No loss to main town, but further loss of properties near pier	No loss	(As A)	(As A)
Gorleston Pavilion and other heritage sites	<ul style="list-style-type: none"> Potential loss of, or damage to, heritage sites, including Grade II Pavilion and Gorleston Old Lighthouse, due to erosion 	Prevent loss of heritage sites to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Loss of Pavilion	No loss	(As A)	(As A)
Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Prevent loss of community facilities to erosion	No loss	No loss	No loss to main town, but potential loss of facilities near pier	No loss	(As A)	(As A)	No loss to main town, but further loss of facilities near pier	No loss	(As A)	(As A)
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 	Prevent loss of tourist facilities to erosion	No loss	No loss	No loss to main town, but potential loss along seafront	No loss and reefs will help maintain beaches	(As A)	(As A)	No loss to main town, but potential loss near pier	No loss but risk of overtopping particularly along the southern section	(As A)	(As A)

Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion including Pumping station and sewer 	Maintain services to properties	No loss	No loss	Loss of services associated with property loss	No loss	(As A)	(As A)	Further loss of services associated with property loss	No loss	(As A)	(As A)
		Maintain pumping station	No loss	No loss	Loss	No loss	(As A)	(As A)	Loss	No loss, but may require works to maintain outlet to sea	(As A)	(As A)
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 (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	No change in beach	Beach present and maintained through recharge	Beach present but may narrow along southern section	Beach present but may narrow along southern section	(As A)	(As A)	Narrow beach maintained	Narrower beach, particularly along southern section	(As A)	(As A)

Gorleston to Hopton

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Timber revetment and groynes will fail by the end of the period.</i>	<i>Timber revetment and groynes maintained until failure.</i>	<i>No defences.</i>	<i>Timber revetment and groynes allowed to deteriorate and fail.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>
Gorleston Golf Course	<ul style="list-style-type: none"> Loss of golf course through erosion 	Prevent loss of golf course to erosion	Loss of golf course land, including holes	Loss of golf course land, including holes	Further loss of golf course land	Further loss of golf course land	(As A)	(As A)	Further loss of golf course land	Further loss of golf course land	(As A)	(As A)

Hopton

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Seawall will start to fail by the end of the period.</i>	<i>Timber revetment and groynes to north maintained until failure. Seawall and groynes maintained.</i>	<i>No defences.</i>	<i>Timber revetment, seawall and groynes allowed to deteriorate and fail.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>
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 	Prevent loss of residential properties to erosion	Loss of seafront houses along Beach Road, once sea wall fails	No loss	Further loss of seafront houses in Beach Road area	Loss of seafront houses along Beach Road, once sea wall fails	(As A)	(As A)	Further loss of seafront houses in Beach Road area	Further loss of seafront houses in Beach Road area	(As A)	(As A)
Commercial properties	<ul style="list-style-type: none"> Potential damage to or loss of businesses through flooding or erosion 	Prevent loss of commercial properties to erosion	No loss	No loss	No loss of non-tourist facilities	No loss of non-tourist facilities	(As A)	(As A)	No loss of non-tourist facilities	No loss of non-tourist facilities	(As A)	(As A)
Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion 	Prevent loss of community facilities to erosion	No loss – heart of village not affected by erosion	No loss	No loss – heart of village not affected by erosion	No loss – heart of village not affected by erosion	(As A)	(As A)	No loss – heart of village not affected by erosion	No loss – heart of village not affected by erosion	(As A)	(As A)
Hopton Holiday Village	<ul style="list-style-type: none"> Potential loss of tourist accommodation through erosion 	Prevent loss of tourist accommodation to erosion	Loss of seafront tourist accommodation	Loss of seafront tourist accommodation	Loss of seafront tourist accommodation	Loss of seafront tourist accommodation	(As A)	(As A)	Loss of seafront tourist accommodation	Loss of seafront tourist accommodation	(As A)	(As A)
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 	Prevent loss of tourist facilities to erosion	No loss	No loss	Loss of facilities associated with Holiday Village and playing field and miniature golf course lost to south	Loss of facilities associated with Holiday Village and playing field and miniature golf course lost to south	(As A)	(As A)	Further loss of facilities along the coastal strip	Further loss of facilities along the coastal strip	(As A)	(As A)

Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and amenities through erosion, including the promenade 	Maintain services to properties	Loss of services associated with non-holiday village properties	Loss of services associated with non-holiday village properties	Loss of services, associated with housing, and promenade lost	Loss of services, associated with housing, and promenade lost	(As A)	(As A)	Further loss of services associated with housing	Further loss of services associated with housing	(As A)	(As A)
Access to beach	<ul style="list-style-type: none"> Loss of access to beach through erosion or management measures 	Maintain access to beach	Beach access maintained, but loss of temporary/informal accesses	Beach access maintained, but loss of temporary/informal accesses	Beach access lost	Beach access lost	(As A)	(As A)	No access	No access	(As A)	(As A)
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 (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Beach present but narrower until seawall fails and allows retreat	Beach present but narrower	Beach present in retreated position	Beach present in retreated position once defences have failed	(As A)	(As A)	Beach present, but possible access problems	Beach present, but possible access problems	(As A)	(As A)

Hopton to Corton

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Timber revetment will fail during this period</i>	<i>Timber revetment and groynes allowed to fail.</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>
Broadland Sands Holiday Centre	<ul style="list-style-type: none"> Potential loss of tourist accommodation through erosion 	Prevent loss of tourist accommodation to erosion	No loss to Broadland Sands (despite cliff retreat)	No loss to Broadland Sands (despite cliff retreat)	Some loss at edge of site	Some loss at edge of site	(As A)	(As A)	Loss of caravan pitches but not main resort buildings	Loss of caravan pitches but not main resort buildings	(As A)	(As A)
Agricultural land	<ul style="list-style-type: none"> Risk of loss of Grade 2 agricultural land through erosion 	Prevent loss of farmland to erosion	Loss of farmland	Loss of farmland	Loss of farmland	Loss of farmland	(As A)	(As A)	Loss of farmland	Loss of farmland	(As A)	(As A)
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 (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Beach present	Beach present	Beach present, but possible access issues	Beach present, but possible access issues	(As A)	(As A)	Beach present, but possible access issues	Beach present, but possible access issues	(As A)	(As A)
Access to beach at Broadland Sands	<ul style="list-style-type: none"> Potential loss of access to beach through erosion or management measures 	Maintain access to beach	Informal access lost	Informal access lost	Access lost	Access lost	(As A)	(As A)	No access	No access	(As A)	(As A)
Sewage works	<ul style="list-style-type: none"> Potential loss of works 	Prevent loss of/damage to Sewage and gas installations	No loss	No loss	No loss	No loss	(As A)	(As A)	Loss of part of site	Loss of part of site	(As A)	(As A)

Corton

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Seawall and rock revetment will remain.</i>	<i>Seawall and rock revetment maintained.</i>	<i>Seawall will fail at the start of this period.</i>	<i>Seawall and rock revetment allowed to deteriorate and fail.</i>	<i>(As A)</i>	<i>Seawall and rock revetment maintained (and enhanced).</i>	<i>No defences.</i>	<i>No defences</i>	<i>(As A)</i>	<i>Seawall and rock revetment maintained (and enhanced).</i>
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 property loss Viability of protecting Corton in the longer-term – concern over limited life of Concern expressed by Parish Council that no compensation is payable to Concern about outflanking of defences from adjoining undefended frontages 	Prevent loss/damage to properties due to erosion	No loss	No loss	Loss of properties	Some property loss, but at a later stage than NAI	(As A)	No loss	Further loss of properties	Further loss of properties	(As A)	No loss
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 defences 	Prevent damage/loss of commercial properties due to erosion	No loss	No loss	Loss of properties	Some property loss	(As A)	No loss	Loss of properties	Loss of main street and associated properties	(As A)	No loss
Community facilities	<ul style="list-style-type: none"> Potential loss of community facilities through erosion, including Common land at Bakers Score 	Prevent loss of community facilities to erosion	No loss	No loss	Some loss of seafront facilities possible	Some loss of seafront facilities possible	(As A)	No loss	Loss of school and main road through village	Loss of school and main road through village	(As A)	No loss
Heritage sites	<ul style="list-style-type: none"> Potential loss of area of high archaeological interest seaward of Corton Church 	Prevent loss of site of high archaeological interest	No loss	No loss	Some loss of site	Some loss of site	(As A)	No loss	Further loss of site	Further loss of site	(As A)	No loss
Tourist facilities	<ul style="list-style-type: none"> Protection of tourist and recreation sites, accommodation and activities 	Prevent loss of tourist and recreational facilities	No loss	No loss	Loss of seafront caravan sites/ holiday camps	Loss of seafront caravan sites/ holiday camps	(As A)	No loss	Further loss of caravan sites/ holiday camps	Further loss of caravan sites/ holiday camps	(As A)	No loss

Infrastructure	<ul style="list-style-type: none"> Potential loss of or damage to services and roads through erosion, including the main village street and mains drainage 	Maintain services to properties	No loss	No loss	Loss of services associated with holiday camps	Loss of services associated with holiday camps	(As A)	No loss	Loss of services associated with properties	Loss of services associated with properties	(As A)	No loss
		Maintain communication link to adjacent towns	No loss	No loss	Loss of section of main road through village	Loss of section of main road through village	(As A)	No loss	Loss of main road 'The Street'	Loss of main road 'The Street'	(As A)	No loss
Cliffs	<ul style="list-style-type: none"> Erosion of cliff face needs to continue to maintain clean exposures and retain SSSI designation 	Retain clean exposure of cliff face to maintain the geological study value of the site	Standard of protection sufficient to allow acceptable exposure of cliffs	Standard of protection sufficient to allow acceptable exposure of cliffs	Increased cliff erosion resulting in improved exposure of geology	Increased cliff erosion resulting in improved exposure of geology	(As A)	Cliff protected so reduced erosion and exposure	Increased erosion resulting in continued exposure of geology	Increased erosion resulting in continued exposure of geology	(As A)	Cliff protected so reduced erosion and exposure
Beach and foreshore	<ul style="list-style-type: none"> Dredging of off-shore banks for marine aggregate (<i>Non-policy issue</i>) 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 groynes 	Maintain a beach suitable for recreation purposes	Beach narrowing therefore little/ no beach	Beach narrowing therefore little/ no beach	Beach present in retreated position once sea wall fails	Beach present in retreated position once sea wall fails	(As A)	No beach due to increased exposure of site	Narrow beach, but access issues	Narrow beach, but access issues	(As A)	No beach due to increased exposure of site
Access to beach at Bakers Score and Tibbenham's Score	<ul style="list-style-type: none"> Loss of access through erosion or management measures 	Maintain access to beach	No change in access	No change in access	Loss of access	Loss of access	(As A)	No change in beach access, but no beach	Loss of access	Loss of access	(As A)	No change in beach access, but no beach

Corton to Lowestoft

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Timber groynes will fail.</i>	<i>Timber groynes allowed to fail.</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>No defences.</i>	<i>No defences.</i>	<i>(As A)</i>	<i>(As A)</i>
Infrastructure	<ul style="list-style-type: none"> Rising mains to Corton Sewage Treatment works and treated water return cross the site of Gunton Warren 	Prevent loss of/damage to sewage and treated water mains	Possible damage to works through erosion	Possible damage to works through erosion	Increased risk of damage to works through erosion	Increased risk of damage to works through erosion	(As A)	(As A)	Damage to works through erosion	Damage to works through erosion	(As A)	(As A)
Gunton Warren	<ul style="list-style-type: none"> Loss of beach will threaten future of designated LNR/County Wildlife site 	Maintain the existing habitats	Deterioration and loss of dunes likely, so some loss of CWS	Deterioration and loss of dunes likely, so some loss of CWS	Loss of dunes (and therefore CWS), but naturally functioning system	Loss of dunes (and therefore CWS), but naturally functioning system	(As A)	(As A)	Exposure of sand cliffs (possible habitat creation?)	Exposure of sand cliffs (possible habitat creation?)	(As A)	(As A)
	<ul style="list-style-type: none"> Open Space indicated in Local Plan as needing protection 	Prevent loss of public open space to erosion	Loss of open space through erosion	Loss of open space through erosion	Loss of open space through erosion	Loss of open space through erosion	(As A)	(As A)	Further loss of open space through erosion	Further loss of open space through erosion	(As A)	(As A)
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 (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Beach present	Beach present	Beach present	Beach present	(As A)	(As A)	Beach present in retreated position	Beach present in retreated position	(As A)	(As A)
	<ul style="list-style-type: none"> Potential contamination from Elani V oil dump 	Prevent exposure of oil dump	Risk of old dump exposure	Risk of old dump exposure	High risk of old dump exposure as much of dunes will erode	High risk of old dump exposure as much of dunes will erode	(As A)	(As A)	Much of dunes eroded therefore exposure of dump probably occurred years 2050	Much of dunes eroded therefore exposure of dump probably occurred years 2050	(As A)	(As A)
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 	Maintain vehicular access to beach	Access possible	Access possible	Access lost	Access lost	(As A)	(As A)	No access	No access	(As A)	(As A)

Lowestoft North (to Lowestoft Ness Point)

			0 – 20 (up to 2025)		20 – 50 (up to 2055)				50 – 100 (up to 2105)			
			NAI	A, B, C	NAI	A	B	C	NAI	A	B	C
Feature	Issues associated with Feature	Objective	<i>Seawall will remain.</i>	<i>Seawall maintained to prevent erosion.</i>	<i>Seawall will remain.</i>	<i>Seawall maintained to prevent erosion.</i>	<i>(As A)</i>	<i>(As A)</i>	<i>Failure of seawall.</i>	<i>Seawall maintained to prevent erosion.</i>	<i>(As A)</i>	<i>(As A)</i>
Lowestoft commercial properties	<ul style="list-style-type: none"> Potential loss of important industrial land and associated assets 	Prevent loss of commercial properties to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Loss of properties due to flooding and erosion	No loss	(As A)	(As A)
Infrastructure	<ul style="list-style-type: none"> Protection of sewage pumping station and headworks. Sewage rising mains and treated water return Gas mains and gas holder at Ness Point 	Prevent loss of/damage to Sewage and gas installations	No loss	No loss	No loss	No loss	(As A)	(As A)	High risk to infrastructure	No loss	(As A)	(As A)
	<ul style="list-style-type: none"> Potential loss or damage to local road network 	Maintain communication links within Lowestoft	No loss	No loss	No loss	No loss	(As A)	(As A)	Loss of link roads only	No loss	(As A)	(As A)
Recreational and tourist facilities	<ul style="list-style-type: none"> Potential loss of tourist and recreation sites, accommodation and activities 	Prevent loss of tourist facilities to erosion	No loss	No loss	No loss	No loss, but promenade more exposed to overtopping	(As A)	(As A)	Flood and erosion risk to recreation ground and promenade	No loss, but promenade more exposed to overtopping	(As A)	(As A)
Lowestoft North Denes	<ul style="list-style-type: none"> Preservation of fishing nets heritage site 	Prevent loss of heritage site to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Loss/ damage due to flooding	No loss	(As A)	(As A)
	<ul style="list-style-type: none"> Open space indicated in Local Plan as needing protection 	Prevent loss of public open space to erosion	No loss	No loss	No loss	No loss	(As A)	(As A)	Loss/ damage due to flooding	No loss	(As A)	(As A)
	<ul style="list-style-type: none"> Potential exposure of former household waste tip 	Prevent exposure of household waste tip	No risk of exposure	No risk of exposure	No risk of exposure	No risk of exposure	(As A)	(As A)	Risk of exposure	No risk of exposure	(As A)	(As A)
Lowestoft Ness Point	<ul style="list-style-type: none"> Maintaining the area as mainland Britain's most easterly point 	Prevent loss of Ness Point as cardinal point	No loss	No loss	No loss	No loss, but increased works required	(As A)	(As A)	Loss of Euroscope marking position of most easterly point	No loss, but increased works required	(As A)	(As A)
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 offshore banks for aggregate (<i>Non-policy issue</i>) 	Maintain a beach suitable for recreation purposes	Little/no beach particularly at southern end	Little/no beach particularly at southern end	No beach	No beach	(As A)	(As A)	Narrow beach possible	No beach	(As A)	(As A)

B4.5 SUMMARY NOTE FROM MARCH 2004 WORKSHOP

Kelling to Lowestoft Ness Shoreline Management Plan

Extended Steering Group 2: Policy Appraisal workshop

1 March 2004, NNDC Offices, Cromer

Summary Note



Halcrow Group Limited

Halcrow

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1 Introduction

This document summarises the key comments and conclusions from the Kelling to Lowestoft Ness Shoreline Management Plan Extended Steering Group (ESG) workshop held on 1 March 2004 at NNDC Offices, Cromer.

This was the second ESG meeting for policy development; the first was held on 5 November 2003. Since the last meeting, policies have been developed, based upon the feedback at that meeting. The potential impacts of these policies were also investigated and a Policy Appraisal Table was distributed to the ESG prior to this meeting. The purpose of this second meeting was to allow stakeholders to steer policy and influence the preferred policy to be presented to the public.

2 Meeting attendees

Name	Affiliation	Breakout Session
Mr Kevin Burgess	Halcrow	1
Dr Helen Jay	Halcrow	2
Mr Terry Oakes	Terry Oakes Associates Ltd	4, 3
Mr Peter Frew	North Norfolk District Council	1
Mr Brian Farrow	North Norfolk District Council	1
Mr Gary Watson	North Norfolk District Council	1
Cllr. D Corbett	North Norfolk District Councillor – Bacton Division	1
Mr Michael Sayer	CLA	1
Mr Robin Buxton	Norfolk & Suffolk Flood Defence Committee Member (and local landowner: Horsey)	2
Mr Phil Bennett-Lloyd	Norfolk County Council	2
Ms Jessica Milligan	School of Environmental Sciences, UEA	1
Mr Peter Lambley	English Nature	2
Mr Ian Dodson	Environment Agency	2
Ms Patricia Rowe	Sea Palling – Waxham Parish Council	-
Mr Malcolm Weston	Sea Palling – Waxham Parish Council	-
Mr Mike Dowling	Great Yarmouth Borough Council	4, 3
Ms Susana Dias	Risk and Policy Analysts Ltd	1
Mr John Ash	Risk and Policy Analysts Ltd	1
Mr Tony Goodwin	Environment Agency Broadland Flood Alleviation Project	2
Mr Roger Bell	Waveney District Council	-
Mr Tim Venes	Norfolk Coast Partnership (AONB)	1
Mr Gary Alexander	North Norfolk District Council	1
Mr Guy Cooper	Environment Agency	2
Mr David Wilson	Defra	2

Name	Affiliation	Breakout Session
Mr Bernard Harris	Gt. Yarmouth Borough Council	4, 3
Mr Ian Boon	Gt. Yarmouth Borough Council	2, 3
Mrs Shirley Weymouth	Winterton and Somerton	2, 3
Cllr Tony Overill	Caister-on-Sea Parish Council	2, 3
Cllr. B J Hannah	County Councillor – Sheringham Division	-
Ms Julia Masson	Broads Authority	2
Mr John Hiskett	Norfolk Wildlife Trust	2
Mr Peter Murphy	English Heritage	1
Mr Julian Walker	Waveney District Council	4, 3
Cllr Terry Morris	Corton Parish Council	4, 3
Ms H Deavin	RSPB	2
Apologies received:		
Ms Heidi Mahon	Norfolk County Council	
Prof. Tim O'Riordan	School of Environmental Sciences, UEA	
Mr John Sizer	National Trust	
Mr Adam Nicholls	Suffolk County Council	
Mrs Buxton	Horsey Parish Council	
Ms Dorothy Casey	Suffolk Wildlife Trust	
Ms Karen Thomas	Environment Agency	
Mr Paul Hammett	National Farmer's Union	
Mr Paul Long	CLA	
Cllr Steven Chilvers	WDC Councillor for the Gunton and Corton Ward	
Breakout Sessions:		
1 Norfolk Villages		
2 Happisburgh to Winterton		
3 Winterton to Caister		
4 Hopton to Corton		

3 Outline of day's activities

Presentation by Halcrow

This outlined the role of the SMP and summarized activities to date and the stages in policy appraisal. There was also an 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.

Session 1

Halcrow presented policy scenarios development and the subsequent impacts along the coast. Stakeholders were asked to identify any areas where they disagreed with the proposed policy and wished to discuss further.

Session 2

The ESG was divided into different groups of individuals, split by geographical area. Each group were asked to discuss those areas identified in Session 1 in order to steer the policy for that specific coastal stretch.

The conclusions of each group were fed back to the rest of the ESG, highlighting areas where reconsideration of the policy was requested.

4 Summary of comments raised in Session 1

4.1 Map 1

- Will allowing cliffs to erode feed beaches to the east of Sheringham? (*H – yes, but along this stretch drift rates are low and by also holding Cromer to the east there will be further disruption to drift*)
- Should we not be considering allowing retreat by Year 100 at Sheringham if we are trying to achieve a sustainable shoreline? (*H - For full sustainability – yes, but Sheringham is recognised as a key service centre along this coast and its position means that it is having less of an impact on processes than other stretches*)
- General agreement with the proposed scenarios (one objection from Mrs Weymouth relating to property loss).

4.2 Map 2

- There will be an impact on the existing holiday industry if there are no beaches (*H – although it should be considered that this industry could change in 100 years time, or it may relocate*).
- No comment on policies for Overstrand.
- Loss of All Saint's Church at Mundesley would not be acceptable.
- Mundesley is marginal in terms of both economics and impact on processes as it is already a promontory.
- Agreed that Mundesley required further discussion.

4.3 Map 3

- The EA Indicative Flooding Mapping at Bacton is incorrect.
- Possible issue of salt intrusion to low-lying areas at Bacton and Walcott
- At Happisburgh it has proved difficult to justify works in terms of economics.
- Concern over loss of St Mary's Church and Grade 1 building at Happisburgh and economic appraisal doesn't take account of cultural value of historic buildings.
- Need to consider loss of community as well as housing.

4.4 Map 4

- There are a large number of unknowns with respect to the Happisburgh to Winterton area, therefore the next few years need to be used to instigate studies to improve understanding of issues and reduce uncertainties.

- What about the impact of dredging? (*H – the potential impact of dredging does not directly affect SMP policy and therefore is not directly discussed within the SMP*)
- There is a need to link up with Broads Flood Alleviation work.
- Agreed that the area required further discussion.

4.5 Map 5

- Winterton to Scratby require further discussion.
- No debate on proposed policies for Caister and Gt Yarmouth.

4.6 Map 6

- Hopton to Corton, no debate on policies set.

4.7 Map 7

- Further discussion required for Corton – also consider impact of loss of road.
- Need to ensure that the sewerage pipe at Gunton is considered (*H – this has been noted in the Policy Appraisal table as an issue*).

4.8 General

- Are we considering the impact on house prices and will the government compensate for loss? (*H – At present there is no government policy in place for compensation and this is beyond the control of the SMP. The SMP can, however, inform government of the scale of the issue*)
- We need to consider mitigation for loss of heritage sites. (*H – This will primarily be undertaken at the strategy or scheme level*)
- Do we expect offshore loss at the promontories and can we quantify? (*H – offshore loss is expected, but unfortunately it is not possible to actually quantify losses without more detailed studies*)
- Acceptance of the SMP may rely on new legislation/ policy being in place, e.g. compensation measures.
- There will be a potential impact on people being able to obtain insurance.
- Need to think about public safety and risk management when considering a Managed Retreat or No Active Intervention option.
- We need to be careful that people are not misled in terms of the protection that they expect to receive – Happisburgh is a good example case, where the first SMP set an unjustifiable policy.
- Relocation needs to be encouraged.
- Concern that this area is being used as a testing ground as it is one of pilot SMPs.
- Potential loss of housing does not fit with the issue of 'rural renaissance' which the government is promoting.
- Are SMPs being prepared in a 'policy vacuum'? There needs to be greater links with Regional Planning Guidance.

5 Summary of Session 2

5.1 North Norfolk villages

- No change in draft scenarios other than review of policy set for Bacton Gas Terminal; it was questioned why Bacton Gas Terminal should be treated any differently from other built assets (i.e. housing) at Bacton village or Mundesley. The expectations are

that Bacton Gas Terminal will continue operating as a site for at least 50 years, but that the processing plant could be relocated.

- Historic settlements have an intrinsic value and an economic benefit in terms of tourism.
- The justification for not continuing to hold Mundesley (beyond year 50) is largely due to process interactions and implications for the shoreline to the south. This also differs from Overstrand (for which the proposed policy is not to defend after year 20) in that this site is more stable, of a different geology and has a longer residual life of existing defences.
- Sheringham and Cromer are regional service centres, which contribute more in this sense to the 'Quality of Life' in North Norfolk. The boundaries of protection (policy) need to be modified to protect properties.
- The SMP needs to demonstrate reasons why decisions exist, e.g. why one area is protected and another is not. The audit trail is fundamental to set out reasoning behind decisions made (i.e. SMP-wide as well as locally).
- The benefits of the proposed policy scenario should be recognised through comparison with No Active Intervention.
- There are a number of aspects that will help the long-term policies to become more palatable:
 - Review of the compensation issues, e.g. compensatory land for new building/relocation (although it was noted that 'financial compensation' may be easier to implement)
 - Flexibility in planning to enable new development for relocation, e.g. village 'roll-over': it was recognised that assessment would need to be made on a village-by-village basis
 - Mitigation for historical property, road, services etc.
- Need to ensure that the various government departments are talking to each other.

5.2 Happisburgh to Winterton

- Highlighted the possible escalation in costs of continuing current management practice due to retreat of the coastal system. It could also become increasingly difficult technically to hold the line after 50 years.
- Need to consider the Broadland Flood Alleviation Project, which covers the area up to the seawall. This is a 20 year Defra-funded project and finances defences along the River Thurne up to Martham.
- Identified that there may be problems with constructing the second defence line proposed due to poor ground conditions. The costs of maintaining a new line were also highlighted and it was concluded that it would be very useful to have costs for the various options proposed.
- Issue of impact on insurance was raised. It was also questioned whether we need to calculate how much it would cost to compensate people for loss of properties.
- Overlap with an existing strategy was discussed, but the cycle of strategies and SMPs was explained.
- Agreed that if possible the existing defences should be held in the immediate term but that during this period there should be extensive research to investigate fully the possibility and implications of both continuing to hold the line and retiring the line.

However, in the longer term (i.e. beyond 20 years) the SMP needs to identify the requirement to be flexible; the possibility and timing of any realignment should depend upon conclusions of the studies.

- Question regarding the freshwater sites and the fact that these are European designated sites, which could require compensation. This is one aspect which would need to be investigated in the first 20 years.

5.3 Winterton to Caister

- All policy options discussed and supported as basis for consultation.

5.4 Hopton and Corton

5.4.1 Hopton:

- Preparation of the Local Development Framework for Great Yarmouth BC starts in July 2004 with consultation planned for summer 2005. The Plan will not cover a period beyond the next 20 years. As such, it will adopt the proposed policy of maintaining defences along the Hopton to Waveney boundary. In which case, it could encourage new development within an area where the defences are to be allowed to fail in the 20 to 50 years period.
- Future relocation of properties is possible but made more difficult because the surrounding land is mainly Grade 1. This affects Potters Holiday Centre in particular.
- Can designated Set Aside land located inland be transferred to a seaside site to allow redevelopment?
- A simple explanation of the proposal is to say, "The plan shows the future position of the coastline and the impact on communities under current policy/expenditure policy. We do not expect a change in policy which will provide more money for coast protection works."
- Local Authorities can spend their own funds to upgrade or replace defences but it must comply within the prevailing SMP policy. If not, Defra will refuse approval.

5.4.2 Corton:

- Should be regarded as a special case in that its major infrastructure and community facilities are located close to the cliff top. The plan assumes the gradual loss of these assets over the 100 years period; however this is unlikely to be the case. For example, long lengths of High Street, which is the only access from the north and south; the Post Office and the school are likely to be lost within a short period of each other within the 20 to 50 years period, thereby seriously affecting the village. This needs to be emphasised in the draft SMP.
- An alternative policy is proposed:
 - 0 to 20 years – as proposed
 - 20 to 50 years – invest in another short-term scheme on a set-back line, acknowledging the need to retreat, but reducing the rate of erosion thereby preserving properties and infrastructure for the longer term.
 - 50 to 100 years – another managed realignment policy.

- Publishing a policy to maintain only for next 20 years will discourage long-term investment by the leisure and tourism industry. In fact, investment may well fall off significantly after first ten years leading to decay and blight.
- It is understood that the Regional Planning Policy encourages and supports the leisure industry in East Anglia to maintain employment levels. We need to be aware that the draft SMP policies permitting erosion and loss of premises/industry are in conflict with the regional policy.

B5 Elected Members Meeting

This section includes the material sent out to the Elected Members through the course of the SMP and contains the following reports:

- Summary note from May 2004 workshop

Kelling to Lowestoft Ness Shoreline Management Plan

Members' Dissemination Meeting

18 May 2004, County Hall, Norwich

Summary Note



**Halcrow Group Limited
Terry Oakes Associates Limited**

Halcrow

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1 Introduction

This document summarises the key comments and conclusions from the Kelling to Lowestoft Ness Shoreline Management Plan Member's Dissemination Meeting held on 18 May 2004 at County Hall, Norwich.

2 Meeting attendees

Name	Affiliation
A Groom	
Mr D Venvell	
Cath Johnson	Broads Authority
Gillian Morgan	Broads Authority
Julia Masson	Broads Authority
Michael Green	Broads Authority
Peter Tallowin	Broads Authority
Dr Murray Gray	Broads Authority Member
Mr Frank Devereux	Broads Authority Member
Mr Julian Swainson	Broads Authority Member
Peter Lambley	English Nature
Guy Cooper	Environment Agency
Jo Cooper	Environment Agency
Jonathon Wortley	Environment Agency
Natashe Temple-Cox	Environment Agency
Simon Barlow	Environment Agency
Stan Jeavons	Environment Agency
Steve Hayman	Environment Agency
Cllr S.A Cullingham	Environment Agency LFDC
Mr Henry Cator DL	Environment Agency LFDC
Mr J.A Sheppard	Environment Agency LFDC
Cllr Shirley Weymouth	Gt. Yarmouth Borough Council
John Hemsworth	Gt. Yarmouth Borough Council
Mr Bernard Harris	Gt. Yarmouth Borough Council
Mr Mike Dowling	Gt. Yarmouth Borough Council
Helen Jay	Halcrow Group
Kevin Burgess	Halcrow Group
T Venes	Norfolk Coast Partnership
Brian Farrow	North Norfolk District Council
Cllr B Crowe	North Norfolk District Council
Cllr C Stockton	North Norfolk District Council

Name	Affiliation
Cllr H Cordeaux	North Norfolk District Council
Cllr Mrs A Tillett	North Norfolk District Council
Cllr Mrs H T Nelson	North Norfolk District Council
Cllr N Ripley	North Norfolk District Council
Cllr S J Partridge	North Norfolk District Council
Cllr W Northam	North Norfolk District Council
Gary Alexander	North Norfolk District Council
Peter Frew	North Norfolk District Council
Terry Oakes	Terry Oakes Associates Ltd
Jessica Milligan	University of East Anglia, Tindall Centre
Cllr Andrew Shepherd	Waveney District Council
Cllr Brian Hunter	Waveney District Council
Cllr Mary Rudd	Waveney District Council
Cllr Stephen Chilvers	Waveney District Council
Cllr Wendy Mawer	Waveney District Council
Julian Walker	Waveney District Council

3 Outline of evening's activities

Introduction and presentation by Peter Frew, ACAG Chairman

Peter Frew explained the function of Shoreline Management Plans and outlined the activities and stages in the development of the sustainable shoreline management policy promoted.

Presentation by Kevin Burgess, Halcrow

This outlined the detail of the Shoreline Management Plan and how the policies have been developed, based upon the various issues along this coastline.

Discussion

The attendees were invited to comment on the proposed Plan.

4 Summary of the discussion

Q. Cllr Shirley Weymouth, Winterton and Somerton Borough

What response is going to be given to people losing homes, with regard to compensation?

Also I want it noted that I am not in agreement with the conclusions from the last ESG meeting.

R. *Peter Frew, ACAG Chairman*

At the moment there is no compensation available, therefore it has been recognised that in the next 20 years there needs to be a lobbying of government to have in place proper methods for dealing with the relocation of people, or a clear statement from Central Government if there is to be no compensation.

Operating Authorities are bound by governing laws and therefore the Plan is realistic.

Your comment has already been noted.

Q. *Michael Green, Director of Research and Strategy, Broads Authority*

The presentation provided a very good overview, but it will be useful if the document can explain the coastal erosion process.

How confident are we in the predictions of coastal erosion processes?

R. *Kevin Burgess, Halcrow*

History shows us that there has been significant erosion along this coast, prior to interventions such as dredging. In making long-term predictions, there is obviously always uncertainty and these are 'predictions' not precise calculations, but we have investigated historical change and have used a scientific understanding of coastal processes to make predictions of future response as accurate as possible. In making our predictions we have provided a band rather than a single line, to demonstrate the range of uncertainty in making such predictions.

Q. *Julian Swainson, Broads Authority Member*

What modelling has been used to make predictions and how robust is it. Due to human intervention along the coast isn't there a problem with using long-term evidence?

R. *Kevin Burgess, Halcrow*

Trends of change are relatively easy to predict, with an obvious exception being the ness areas, where there is still a great deal of uncertainty. Past rates give us an idea of the orders of magnitude of likely change, although variations upon these have been assessed.

Q. *CllrH Nelson North Norfolk District*

The A149 is an important road for tourism and other industries – has there been any consideration of rerouting this link road?

R. *Kevin Burgess, Halcrow*

The Plan is only from a coastal defence perspective, which identifies risks so that Planning Authorities can take account of such risks. We have identified where such assets are at risk and

when, to inform the planning process. There therefore needs to be other plans in place to mitigate for this type of asset and others.

R. *Peter Frew, ACAG Chairman*

A weakness of the current system is that there is a large number of plans in existence. The government is looking into addressing this, e.g. such as through Integrated Coastal Zone Management. Therefore this may be something that future SMPs (i.e. 3rd generation or beyond) will consider.

Q. *Cllr Sheila Cullinham, EA LFDC*

If the Plan is non-statutory and only guidance, what will happen in test cases, also how will it control planners developing in flood areas?

You stated that hard defences will affect sediment movement – what does this mean for the offshore reefs along this coast and the Great Yarmouth Outer Harbour?

R. *Kevin Burgess, Halcrow*

Part of the scheme at Happisburgh to Winterton is to recharge beaches downdrift to mitigate for any sediment shortfall.

It is understood that plans for the Outer Harbour also include consideration and allowance for any interruptions, through sediment bypassing if required.

R. *Gary Alexander, North Norfolk District Council Planner*

Central government advice states that local plans should take account of SMPs (PPG 25). In considering objections, authorities need to consider whether development plans are appropriate and therefore take on board coastal issues and policies identified.

Q. *Cllr Brian Hunter, Waveney District Council*

The greatest concern is how consultation will move forward and the public response – there is fear of blight areas and therefore presentations need to take account of this impact.

What do you mean by 'more natural' position?

What do you mean by interruptions to sediment transport?

R. *Kevin Burgess, Halcrow*

In terms of more natural position – this coastline is eroding, but when we defend the coast, although we stop erosion at the cliffline the inshore subsea profile is still changing, resulting in deeper water at the shoreline. As a result, defending the coast puts greater pressure at that point and therefore when defences fail there will be a period of rapid erosion, as was observed at

Happisburgh. This rate will slow once a more natural position is reached and it may also be easier to defend at this stage as there will be less deep water at the shoreline.

Where we defend a shoreline, a promontory will develop as on either side erosion will continue; this will become like a terminal structure, such as a breakwater. Sediment will no longer be able to move around this structure and is likely to be lost to the offshore rather than feeding beach elsewhere.

Q. Cllr Shirley Weymouth, Winterton and Somerton Borough

With respect to recharge, at Bramble Hill there has been recharge – will this continue? Also there is a strategy in place – are we putting the ‘cart before the horse’ to do the SMP first?

R. Kevin Burgess, *Halcrow*

The SMP policy is for the current practice along this stretch to continue for the immediate term; no change is advocated at present. The ongoing strategy plan is looking in more detail at the options, but studies to determine the most appropriate long-term policy will carry on over several years.

Q. Cllr Shirley Weymouth, Winterton and Somerton Borough

The SMP will impact on properties as soon as the document is released. I also think that it isn't fair that some details given out at the Extended Steering Group meeting were not provided tonight.

R. Kevin Burgess, *Halcrow*

The ESG was a day-long meeting – this is only a 2 hour meeting, therefore it has not been possible to cover all details.

The Plan needs to be realistic – would it be right to tell people that we will be defending their homes if this is not actually going to be the case because it is not economically justified under current rules. The Plan also needs to recognise our legal obligations, for example conservation of natural assets.

Q. Cllr A Tillett, North Norfolk District Council

When will this hit the public as we are already seeing properties being devalued – so we need to be very sensitive?

R. Peter Frew, *ACAG Chairman*

There is a Client Group meeting tomorrow to discuss the consultation, but we fully understand the concerns. We must ensure that the public hear an accurate message not just rumour and therefore we need to be sure that the document is accurate and there is no prior leakage. We are

already in contact with our publicity department. At NNDC, we hopefully have dealt sensitively with the people of Happisburgh – this will be the first of many places in a similar position. All 3 SMPs being carried out at the moment have come from the same standpoint and even on the south coast there will be loss of properties under the preferred Plan.

R. *Guy Cooper, Environment Agency*

The EA has also learnt important lessons from their recent consultation exercises on the Essex coast.

Q. *Cllr B Crowe, North Norfolk District Council*

What about the impact of offshore dredging – this ties up with the compensation issues, as the government takes money from the dredging?

Q. *Cllr C Stockton, North Norfolk District Council*

I have grave concern that the SMP is a macro-look, which is required, but I am concerned about the concept of going back to nature. The proposed Plan will result in changes to the geography of the Norfolk coast. This document will define how this coastline will develop therefore it needs to be based on the best scientific knowledge.

Dredging is a key issue in this area – it is hard for people to swallow the fact that people will lose houses, when the government are making money from such dredging. Therefore the document needs to consider this.

Happisburgh should be considered as a pressure point as there is a limited area of cliffs remaining, therefore there would be flooding behind should erosion continue. I do not believe the rate of erosion at Happisburgh will actually slow, as you predict.

R. *Kevin Burgess, Halcrow*

Although large-scale, the SMP has undertaken detailed work as part of the policy development, therefore should not be considered as a macro-look. It has taken on board the detailed studies that have been undertaken for this coast. With regard to nature issues – we currently have legal obligations to protect certain conservation interests.

It is not for us to comment on how the government spends the money available to it. But there is evidence that this coastline has eroded for hundreds of years, i.e. long before dredging started.

R. *Helen Jay, Halcrow*

The document has taken on board existing studies relating to dredging, which conclude that dredging is not likely to cause any adverse effects on the coastal erosion rates along this coast.

R. *Peter Frew, ACAG Chairman*

The SMP is owned by the Local Authorities, EN and EA, therefore before we go to public consultation the document needs to present a policy which is defensible in what it says. However, it is important that we do not promise what cannot be delivered. Are we better off telling people what is realistic or what they want to hear?

Q. Cllr Frank Devereux, Broads Authority Member

It is vital how this is presented to the public – people will see themselves doomed. There is concern regarding the lack of modelling – some areas may have benefited from this.

We need to bring costs into this – the public need to hear something said about compensation, e.g. the Broads Authority could potentially incur costs of several millions.

R. Kevin Burgess, Halcrow

It is important to note that modelling of coastal response is only really appropriate in short-term predictions, due to data available. This coast has also been extensively modelled in the past and there was also the Southern North Sea Sediment Transport Study which investigated sediment movement along this coast. These have all been taken into account in our analysis.

R. Peter Frew, ACAG Chairman

You have echoed the concerns that we are trying to make to Defra. To defend any coast costs, and along much of this coastline the costs exceed the benefits therefore we don't get schemes funded. But there are also costs associated with adopting policies of retreat. We are in danger of producing a non-deliverable Plan.

Q. Simon Barlow, Environment Agency

I have some concerns over planning guidance in the Happisburgh to Winterton flood plain as planning is based on current Standard of Protection – which will change under proposed policy. We need the information necessary so that we can inform the Local Authorities; therefore we need to push the need for studies to be carried out as soon as possible.

R. Kevin Burgess, Halcrow

The SMP states that in the immediate term we should continue to hold Happisburgh to Winterton, but that in the longer term we should also look at an option of retreat. It is important to note that all the policies are interconnected therefore if the policy were to change at one location it would impact on the policy decision at another location.

Q. Gillian Morgan, Director of Planning and Development, Broads Authority

I have some concerns about the cost-benefit analysis and the impact on future investment in the Broads. How has the case been made and does it take account of revenue, e.g. from tourism

which generates £146million? How far back from the coast has economic justification been considered?

R. *Kevin Burgess, Halcrow*

The SMP is using the best available information, e.g. from strategies where available; we are working closely with the team involved in the strategy for the flood plain.

In general, the SMP is looking at whether there is a robust case, or not, for defending, i.e. we are looking at the value of assets versus the cost of defence per linear metre.

Q. Gillian Morgan, Director of Planning and Development, Broads Authority.

So the SMP is not looking at revenue?

R. *Kevin Burgess, Halcrow*

There are particular rules, set by Treasury, that need to be followed when undertaking analysis of costs and benefits. The property value is the first stage to determine a case, and then revenue would usually be considered.

Q. Jonathon Wortley, Environment Agency

Can you comment on how the EA should be proactive or reactive in the implementation of the Plan? Also can you comment on the EA flood warning system?

R. *Kevin Burgess, Halcrow*

The Plan is a strategic view on what might be appropriate in the future. It is therefore to inform on risk and does not extend to implementation measures such as flood warning or actual management of changes.

B5.1 SUMMARY NOTE FROM MAY 2004 WORKSHOP

Kelling to Lowestoft Ness Shoreline Management Plan

Members' Dissemination Meeting

18 May 2004, County Hall, Norwich

Summary Note



**Halcrow Group Limited
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Steve Hayman	Environment Agency
Cllr S.A Cullingham	Environment Agency LFDC
Mr Henry Cator DL	Environment Agency LFDC
Mr J.A Sheppard	Environment Agency LFDC
Cllr Shirley Weymouth	Gt. Yarmouth Borough Council
John Hemsworth	Gt. Yarmouth Borough Council
Mr Bernard Harris	Gt. Yarmouth Borough Council
Mr Mike Dowling	Gt. Yarmouth Borough Council
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Cllr Mrs A Tillett	North Norfolk District Council
Cllr Mrs H T Nelson	North Norfolk District Council
Cllr N Ripley	North Norfolk District Council
Cllr S J Partridge	North Norfolk District Council
Cllr W Northam	North Norfolk District Council
Gary Alexander	North Norfolk District Council
Peter Frew	North Norfolk District Council
Terry Oakes	Terry Oakes Associates Ltd
Jessica Milligan	University of East Anglia, Tindall Centre
Cllr Andrew Shepherd	Waveney District Council
Cllr Brian Hunter	Waveney District Council
Cllr Mary Rudd	Waveney District Council
Cllr Stephen Chilvers	Waveney District Council
Cllr Wendy Mawer	Waveney District Council
Julian Walker	Waveney District Council

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Also I want it noted that I am not in agreement with the conclusions from the last ESG meeting.

R. *Peter Frew, ACAG Chairman*

At the moment there is no compensation available, therefore it has been recognised that in the next 20 years there needs to be a lobbying of government to have in place proper methods for dealing with the relocation of people, or a clear statement from Central Government if there is to be no compensation.

Operating Authorities are bound by governing laws and therefore the Plan is realistic.

Your comment has already been noted.

Q. *Michael Green, Director of Research and Strategy, Broads Authority*

The presentation provided a very good overview, but it will be useful if the document can explain the coastal erosion process.

How confident are we in the predictions of coastal erosion processes?

R. *Kevin Burgess, Halcrow*

History shows us that there has been significant erosion along this coast, prior to interventions such as dredging. In making long-term predictions, there is obviously always uncertainty and these are 'predictions' not precise calculations, but we have investigated historical change and have used a scientific understanding of coastal processes to make predictions of future response as accurate as possible. In making our predictions we have provided a band rather than a single line, to demonstrate the range of uncertainty in making such predictions.

Q. *Julian Swainson, Broads Authority Member*

What modelling has been used to make predictions and how robust is it. Due to human intervention along the coast isn't there a problem with using long-term evidence?

R. *Kevin Burgess, Halcrow*

Trends of change are relatively easy to predict, with an obvious exception being the ness areas, where there is still a great deal of uncertainty. Past rates give us an idea of the orders of magnitude of likely change, although variations upon these have been assessed.

Q. *Cllr H Nelson North Norfolk District*

The A149 is an important road for tourism and other industries – has there been any consideration of rerouting this link road?

R. *Kevin Burgess, Halcrow*

The Plan is only from a coastal defence perspective, which identifies risks so that Planning Authorities can take account of such risks. We have identified where such assets are at risk and

when, to inform the planning process. There therefore needs to be other plans in place to mitigate for this type of asset and others.

R. Peter Frew, ACAG Chairman

A weakness of the current system is that there is a large number of plans in existence. The government is looking into addressing this, e.g. such as through Integrated Coastal Zone Management. Therefore this may be something that future SMPs (i.e. 3rd generation or beyond) will consider.

Q. Cllr Sheila Cullinham, EA LFDC

If the Plan is non-statutory and only guidance, what will happen in test cases, also how will it control planners developing in flood areas?

You stated that hard defences will affect sediment movement – what does this mean for the offshore reefs along this coast and the Great Yarmouth Outer Harbour?

R. Kevin Burgess, Halcrow

Part of the scheme at Happisburgh to Winterton is to recharge beaches downdrift to mitigate for any sediment shortfall.

It is understood that plans for the Outer Harbour also include consideration and allowance for any interruptions, through sediment bypassing if required.

R. Gary Alexander, North Norfolk District Council Planner

Central government advice states that local plans should take account of SMPs (PPG 25). In considering objections, authorities need to consider whether development plans are appropriate and therefore take on board coastal issues and policies identified.

Q. Cllr Brian Hunter, Waveney District Council

The greatest concern is how consultation will move forward and the public response – there is fear of blight areas and therefore presentations need to take account of this impact.

What do you mean by 'more natural' position?

What do you mean by interruptions to sediment transport?

R. Kevin Burgess, Halcrow

In terms of more natural position – this coastline is eroding, but when we defend the coast, although we stop erosion at the cliffline the inshore subsea profile is still changing, resulting in deeper water at the shoreline. As a result, defending the coast puts greater pressure at that point and therefore when defences fail there will be a period of rapid erosion, as was observed at

Happisburgh. This rate will slow once a more natural position is reached and it may also be easier to defend at this stage as there will be less deep water at the shoreline.

Where we defend a shoreline, a promontory will develop as on either side erosion will continue; this will become like a terminal structure, such as a breakwater. Sediment will no longer be able to move around this structure and is likely to be lost to the offshore rather than feeding beach elsewhere.

Q. Cllr Shirley Weymouth, Winterton and Somerton Borough

With respect to recharge, at Bramble Hill there has been recharge – will this continue? Also there is a strategy in place – are we putting the ‘cart before the horse’ to do the SMP first?

R. Kevin Burgess, *Halcrow*

The SMP policy is for the current practice along this stretch to continue for the immediate term; no change is advocated at present. The ongoing strategy plan is looking in more detail at the options, but studies to determine the most appropriate long-term policy will carry on over several years.

Q. Cllr Shirley Weymouth, Winterton and Somerton Borough

The SMP will impact on properties as soon as the document is released. I also think that it isn't fair that some details given out at the Extended Steering Group meeting were not provided tonight.

R. Kevin Burgess, *Halcrow*

The ESG was a day-long meeting – this is only a 2 hour meeting, therefore it has not been possible to cover all details.

The Plan needs to be realistic – would it be right to tell people that we will be defending their homes if this is not actually going to be the case because it is not economically justified under current rules. The Plan also needs to recognise our legal obligations, for example conservation of natural assets.

Q. Cllr A Tillett, North Norfolk District Council

When will this hit the public as we are already seeing properties being devalued – so we need to be very sensitive?

R. Peter Frew, *ACAG Chairman*

There is a Client Group meeting tomorrow to discuss the consultation, but we fully understand the concerns. We must ensure that the public hear an accurate message not just rumour and therefore we need to be sure that the document is accurate and there is no prior leakage. We are

already in contact with our publicity department. At NNDC, we hopefully have dealt sensitively with the people of Happisburgh – this will be the first of many places in a similar position. All 3 SMPs being carried out at the moment have come from the same standpoint and even on the south coast there will be loss of properties under the preferred Plan.

R. *Guy Cooper, Environment Agency*

The EA has also learnt important lessons from their recent consultation exercises on the Essex coast.

Q. *Cllr B Crowe, North Norfolk District Council*

What about the impact of offshore dredging – this ties up with the compensation issues, as the government takes money from the dredging?

Q. *Cllr C Stockton, North Norfolk District Council*

I have grave concern that the SMP is a macro-look, which is required, but I am concerned about the concept of going back to nature. The proposed Plan will result in changes to the geography of the Norfolk coast. This document will define how this coastline will develop therefore it needs to be based on the best scientific knowledge.

Dredging is a key issue in this area – it is hard for people to swallow the fact that people will lose houses, when the government are making money from such dredging. Therefore the document needs to consider this.

Happisburgh should be considered as a pressure point as there is a limited area of cliffs remaining, therefore there would be flooding behind should erosion continue. I do not believe the rate of erosion at Happisburgh will actually slow, as you predict.

R. *Kevin Burgess, Halcrow*

Although large-scale, the SMP has undertaken detailed work as part of the policy development, therefore should not be considered as a macro-look. It has taken on board the detailed studies that have been undertaken for this coast. With regard to nature issues – we currently have legal obligations to protect certain conservation interests.

It is not for us to comment on how the government spends the money available to it. But there is evidence that this coastline has eroded for hundreds of years, i.e. long before dredging started.

R. *Helen Jay, Halcrow*

The document has taken on board existing studies relating to dredging, which conclude that dredging is not likely to cause any adverse effects on the coastal erosion rates along this coast.

R. *Peter Frew, ACAG Chairman*

The SMP is owned by the Local Authorities, EN and EA, therefore before we go to public consultation the document needs to present a policy which is defensible in what it says. However, it is important that we do not promise what cannot be delivered. Are we better off telling people what is realistic or what they want to hear?

Q. Cllr Frank Devereux, Broads Authority Member

It is vital how this is presented to the public – people will see themselves doomed. There is concern regarding the lack of modelling – some areas may have benefited from this.

We need to bring costs into this – the public need to hear something said about compensation, e.g. the Broads Authority could potentially incur costs of several millions.

R. Kevin Burgess, Halcrow

It is important to note that modelling of coastal response is only really appropriate in short-term predictions, due to data available. This coast has also been extensively modelled in the past and there was also the Southern North Sea Sediment Transport Study which investigated sediment movement along this coast. These have all been taken into account in our analysis.

R. Peter Frew, ACAG Chairman

You have echoed the concerns that we are trying to make to Defra. To defend any coast costs, and along much of this coastline the costs exceed the benefits therefore we don't get schemes funded. But there are also costs associated with adopting policies of retreat. We are in danger of producing a non-deliverable Plan.

Q. Simon Barlow, Environment Agency

I have some concerns over planning guidance in the Happisburgh to Winterton flood plain as planning is based on current Standard of Protection – which will change under proposed policy. We need the information necessary so that we can inform the Local Authorities; therefore we need to push the need for studies to be carried out as soon as possible.

R. Kevin Burgess, Halcrow

The SMP states that in the immediate term we should continue to hold Happisburgh to Winterton, but that in the longer term we should also look at an option of retreat. It is important to note that all the policies are interconnected therefore if the policy were to change at one location it would impact on the policy decision at another location.

Q. Gillian Morgan, Director of Planning and Development, Broads Authority

I have some concerns about the cost-benefit analysis and the impact on future investment in the Broads. How has the case been made and does it take account of revenue, e.g. from tourism

which generates £146million? How far back from the coast has economic justification been considered?

R. *Kevin Burgess, Halcrow*

The SMP is using the best available information, e.g. from strategies where available; we are working closely with the team involved in the strategy for the flood plain.

In general, the SMP is looking at whether there is a robust case, or not, for defending, i.e. we are looking at the value of assets versus the cost of defence per linear metre.

Q. Gillian Morgan, Director of Planning and Development, Broads Authority.

So the SMP is not looking at revenue?

R. *Kevin Burgess, Halcrow*

There are particular rules, set by Treasury, that need to be followed when undertaking analysis of costs and benefits. The property value is the first stage to determine a case, and then revenue would usually be considered.

Q. Jonathon Wortley, Environment Agency

Can you comment on how the EA should be proactive or reactive in the implementation of the Plan? Also can you comment on the EA flood warning system?

R. *Kevin Burgess, Halcrow*

The Plan is a strategic view on what might be appropriate in the future. It is therefore to inform on risk and does not extend to implementation measures such as flood warning or actual management of changes.

B6 Consultation on Draft SMP

This section includes the consultation report produced by Terry Oakes Associates Ltd. and the subsequent response report.

B6.1 CONSULTATION REPORT

(Produced by Terry Oakes Associates Ltd)

**KELLING TO LOWESTOFT NESS
SHORELINE MANAGEMENT PLAN**

REVIEW OF CONSULTATION RESPONSES

July 2005



TERRY+OAKES
A S S O C I A T E S

KELLING TO LOWESTOFT NESS SHORELINE MANAGEMENT PLAN

CONSULTATION REPORT July 2005

prepared for

SMP 3B Client Steering Group

by

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TOAL REPORT - ASSURED QUALITY			
Project Ref/Title	Kelling to Lowestoft Ness Shoreline Management Plan		
Approach	Report on responses received following consultation on draft management policies		
Report Status	Final version	Rev:	0
Report prepared by:	T Oakes, Director, and K Tyrrell, Associate		
Report issued to:	SMP 3b Client Steering Group		
Report approved for issue by:	T Oakes, Director		
Date:	20 July 2005		

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Appendices

1	List of Parish Councils responding
2	List of businesses responding
3	List of organisations responding
4	List of Government and non-Government Agencies responding
5	Proformas

1 INTRODUCTION

- 1.1 On 15 December 2004, North Norfolk District Council, Great Yarmouth Borough Council, Waveney District Council and the Environment Agency (the Operating Authorities and Partners) issued a joint consultation document "Kelling to Lowestoft Ness Shoreline Management Plan – Document for Consultation".
- 1.2 The consultation was part of the review of the original Shoreline Management Plan (SMP) for the coastline between Sheringham, Norfolk, and Lowestoft Ness, Suffolk, which was completed in 1996. This revision of SMP presented the preferred plan and policies for managing the coastline for the next 100 years.
- 1.3 The objectives of the review of the SMP were:
- to define, in general terms, the risks to people and the developed, natural and historic environment within the SMP area over the next century;
 - to identify the preferred policies for managing those risks;
 - to identify the consequences of implementing the preferred policies;
 - to set out procedures for monitoring the effectiveness of the SMP policies;
 - to inform others so that future land use and development of the shoreline can take due account of the risks and preferred SMP policies; and
 - to comply with international and national nature conservation legislation and biodiversity obligations.
- 1.4 The consultation document offered respondents the opportunity to comment on the proposed plan for the future and the policies required for its implementation.
- 1.5 The Partners specified, using Defra guidelines, the means by which the consultation process was to be undertaken and appointed Terry Oakes Associates Ltd, Lowestoft, to manage the process and to receive comments. This report describes how the consultation process was undertaken. It provides an overall analysis of correspondence received and a summary of the opinions expressed.

2 CONSULTATION PROCESS

2.1 Consultation period

2.1.1 The consultation period began on 15 December 2004 with an initial closing date for comments of 31 March 2005. During early January 2005, we received a number of requests, from Parish Councils and members of the public, to extend the consultation by a further month to provide additional time for public and parish meetings and to give enough time for the public to absorb the full implications of the SMP. The Client Steering Group met on 19 January 2005 and agreed to extend the closing date to 29 April 2005.

2.2 Availability of consultation documents

2.2.1 The full consultation document, including all appendices and maps, was available in electronic format on the Anglian Coastal Authorities Groups' website www.acag.org.uk. A consultation response form¹ was available for download or completion on-line.

2.2.2 Printed versions of the consultation document were available for inspection as the following locations:

- North Norfolk District Council offices at Cromer, Fakenham and North Walsham;
- Great Yarmouth Borough Council offices at Maltings House, Great Yarmouth and GYB Services, 101 Churchill Rd Offices, Great Yarmouth;
- Waveney District Council offices at the Town Hall, Lowestoft; and
- Public libraries in Sheringham, Cromer, Holt, North Walsham, Mundesley, Stalham, Martham. Caister, Great Yarmouth, Gorleston and Lowestoft.

2.2.3 Copies of the consultation document were provided by the local authorities to following Parish Councils:

- North Norfolk: District Council sent printed versions of the consultation document together with an electronic version of the appendices on CD-ROM to the Parish and Town Councils after the SMP seminar in Cromer on 8 December 2005. The parishes represented were Sidestrand, Happisburgh & Walcott, Mundesley,

¹ See Appendix 1

East and West Runton, Overstrand, Beeston Regis, Bacton and Trimingham; Sheringham and Cromer Town Councils representatives attended too;

- Great Yarmouth Borough Council sent a printed copy of the plan and an electronic version of the appendices (on a CD-ROM) to every parish council in the borough;
- Waveney District Council gave a copy of the consultation document and maps to Corton Parish Council, the only coastal parish in Waveney covered by the SMP proposals.

2.3 Officer Presentations

2.3.1 A series of presentations was given by officers of the local authorities and the Environment Agency and staff of the Halcrow Group:

Location	Venue	Date	Audience
Great Yarmouth	Town Hall	3 November 2004	GYBC Cabinet
Broads Authority	UEA	18 November 2004	Broads Authority Research Panel Advisory Group
Great Yarmouth	Town Hall	2 December 2004	Parish Council representatives
Cromer	Council Offices	8 December 2004	Parish Council representatives
Cromer	Council Offices	14 December 2004	Local businesses
Broads Forum	County Hall, Norwich	16 December 2004	Forum Members
Stalham	Kingfisher Hotel	12 January 2005	Parish Council
Stalham	Sutton Staithe Hotel	19 January 2005	Stalham Farmers Club

Location	Venue	Date	Audience
Great Yarmouth	Town Hall	25 January 2005	Great Yarmouth Environmental Forum
Great Yarmouth	Assembly Rooms	15 February 2005	Parish Council representatives
Lowestoft	Town Hall	21 February 2005	WDC Council
Corton	Village Hall	1 March 2005	Parish Council

2.4 Public exhibitions

- 2.4.1 The public and businesses were invited to a series of public exhibitions where they were able to discuss the proposals contained in the draft SMP with officers of the local authorities and the Environment Agency.

Location	Venue	Dates	Times	Notes
Corton	Village Hall	8 February	2pm to 7:30pm	
Caister	Council Hall	14 February	2pm to 7:30pm	
Great Yarmouth	Town Hall	15 February	2pm to 6:30pm	
Winterton	Village Hall	16 February	9am to 2pm	
Gorleston	Library	17 February	2pm to 7:30pm	Display only
Overstrand	Parish Hall	22 February	2pm to 7:30pm	
Mundesley	Coronation Hall	24 February	2pm to 7:30pm	
Sea Palling	Sea Palling & Waxham Village Hall	25 February	2pm to 7:30pm	

Location	Venue	Dates	Times	Notes
Hemsby	Village Hall	12 March	2pm to 5pm	Display organised by Parish
Martham	Martham CLIP Office	9 April	2pm to 5pm	Display organised by Parish

2.4.2 Information boards were displayed at each of the exhibitions.

2.4.3 The topics covered on the boards included:

- What is a Shoreline Management Plan?
- Background to the Kelling to Lowestoft Ness SMP.
- SMP Study Area.
- Description of Area.
- Characteristics of Area.
- What issues are we facing?
- What would happen if we continue to defend into the future as we have done in the past?
- What would happen if we continue to defend our shorelines in the same locations, as we have done in the past?
- Need for a 'sustainable' approach.
- The SMP Policies.
- The Policy Appraisal Process.
- The Preferred Shoreline Management Plan (a series of 13 plans with explanatory text illustrating the SMP proposals for the coastline).
- Managing the Change.

- How can you get involved?

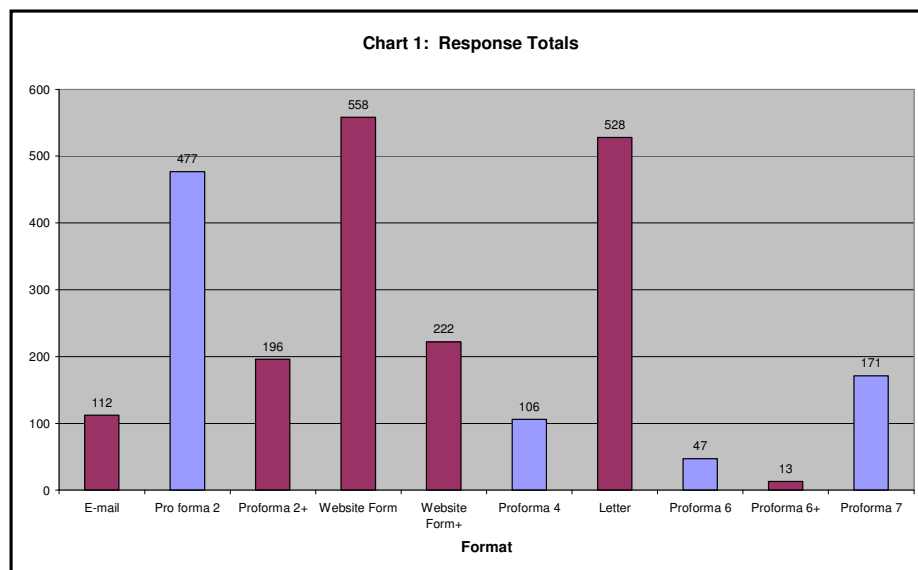
2.4.4 At each of the attended exhibitions, except for Sea Palling, there was a slide show lasting 18 minutes, which illustrated changing coastline and the need for the review of the SMP.

3 FORM OF RESPONSES

3.1.1 2,430 responses were received from residents, businesses, Parish Councils and other organisations. In addition, three petitions signed by 480, 95 and 26 people respectively were received.

3.2 Responses were received in a variety of formats:

- Individually written letters;
- Individually written e-mails;
- Comments at the public exhibitions;
- Individually completed consultation forms downloaded from the website – referred to in this report as Pro-forma 3²;
- Five different pre-printed forms signed by consultees – referred to in this report as Pro-formas 2, 4, 6 and 7³;
- Pre-printed forms signed by consultees with additional comments written by consultees – referred to in this report as Pro-formas 2+, 3+ and 6+⁴.

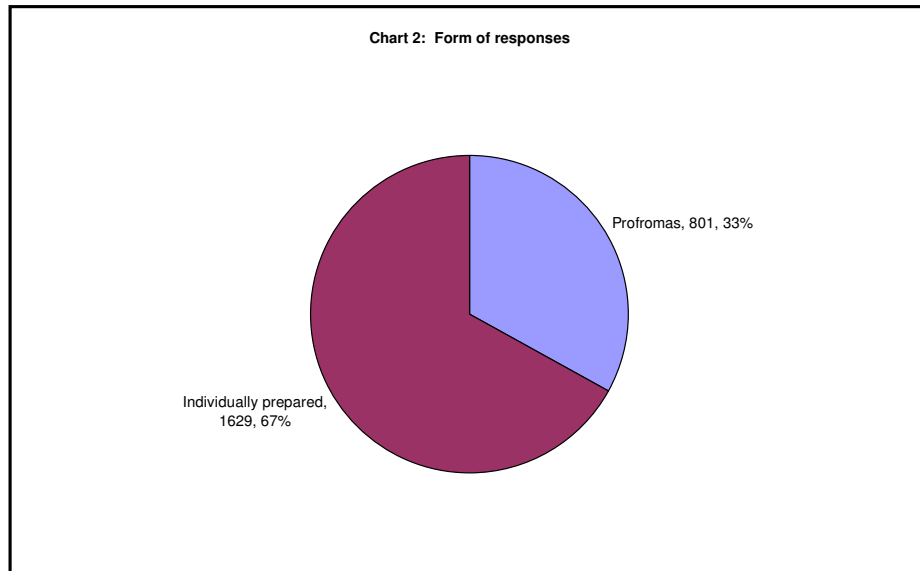


² See Appendix 2

³ See Appendix 3

⁴ See Appendix 4

- 3.3 67% of the responses were either prepared individually or contained individually written comments (shaded maroon on Chart 1). The other 33% of responses were returned as signed pro-formas:



4 METHOD OF ANALYSIS

4.1 All comments and responses received were recorded as detailed below:

- Upon receipt, each response was given a unique reference number and its date of receipt recorded.
- Each response was read on the day of receipt.
- We replied to questions and sought additional information from the Clients and/or Consultant if we were unable to answer the questions ourselves.
- We did not acknowledge receipt of the response unless requested so to do.
- Details of each response were entered on a Microsoft Excel spreadsheet. The details recorded included the unique reference number, the name, address and the postcode of the person making the comment, the format in which the comment was made and a summary of the response.
- As the database grew, we identified twelve dominant strands of comment and added fields for each strand (see next section for details).
- All records of all responses were updated to indicate the strands covered by each response.

4.2 Data contained in the spreadsheet were used to undertake the analysis of responses.

5 ANALYSIS OF RESPONSES

5.1 General

- 5.1.1 2,430 responses were received in total. Of these, 2,323 responses representing 2,870 people, were received from the public and 104 from businesses, Parish Councils and other organisations⁵. Three petitions signed by 601 people were received. Some consultees sent in more than one response.
- 5.1.2 2,420 (99.6%) of the total responses objected to the proposals.
- 5.1.3 Support for the draft policies was received from five members of the public and five organisations, including English Nature and the Environment Agency.
- 5.1.4 A summary of the source of the responses is given overleaf on Chart 3.
- 5.1.5 87% of the responses came from Norfolk and Suffolk. However, responses came from 21 other English and Welsh counties. Individual responses were received from New Zealand, South Africa and Australia.
- 5.1.6 The greatest number of responses came from residents most likely to be affected by a change in defence policy - Overstrand (254, 10.5%) followed by Bacton (232, 9.5%), Happisburgh (185, 7.6%), Potter Heigham (177, 7.3%), Walcott (144, 5.9%) and Mundesley (131, 5.3%).

5.2 Public meetings

- 5.2.1 The Operating Authorities did not arrange any additional public meetings apart from the exhibitions listed in 2.4.1. However, in response to the publication of the draft plan, four public meetings were organised in Norfolk during February 2005 by Malcolm Kerby of the Coastal Concern Action Group (CCAG) in conjunction with Norman Lamb MP to “try to explain the draft shoreline management plan & its impact on the local area to the general public in layman’s terms”⁶. Local Authority and Environment Agency officers were not invited to attend.
- 5.2.2 Subsequently, Malcolm Kerby attended another five meetings at the request of the local people.

⁵ Listed in Appendices 1 to 4

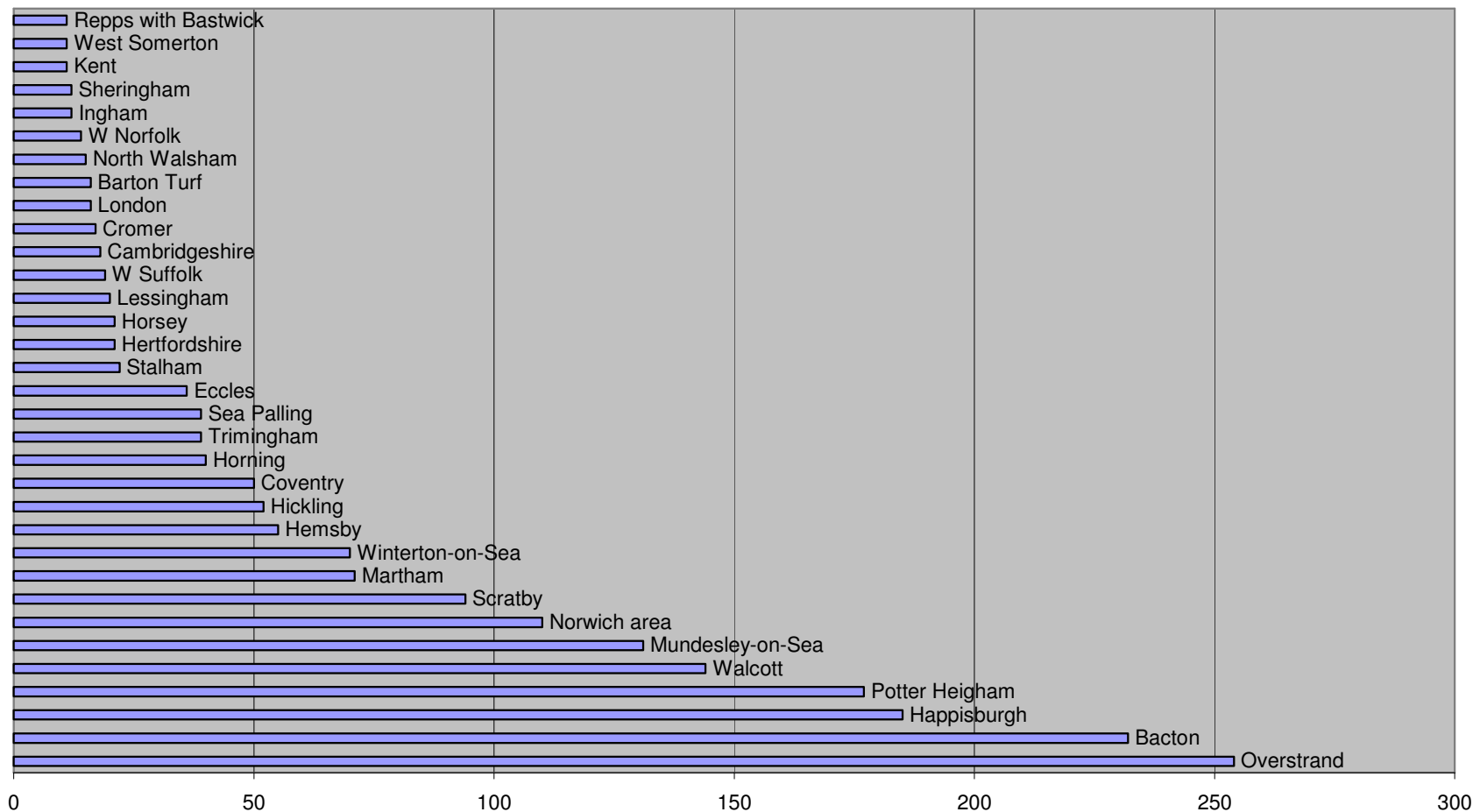
⁶ Quote taken from CCAG summary of the meetings at
www.happisburgh.org.uk/content/ccag_smp_meetings.doc

5.2.3 The following table give details of the meetings:

Date	Venue	Attendance
8 th February 2005	St. Mary's Church, Happisburgh	Approx. 200-250
10 th February 2005	Coronation Hall, Mundesley	Approx. 100-150
11 th February 2005	St Martin's Church, Overstrand	Approx 200-250
14 th February 2005	Village Church, Bacton	Approx. 120-180
tbc	Walcott	N/A
9 th March 2005	Potter Heigham	N/A
7 th April 2005	Scratby	N/A
8 th April 2005	Sea Palling	N/A
15 th April 2005	Horning	N/A

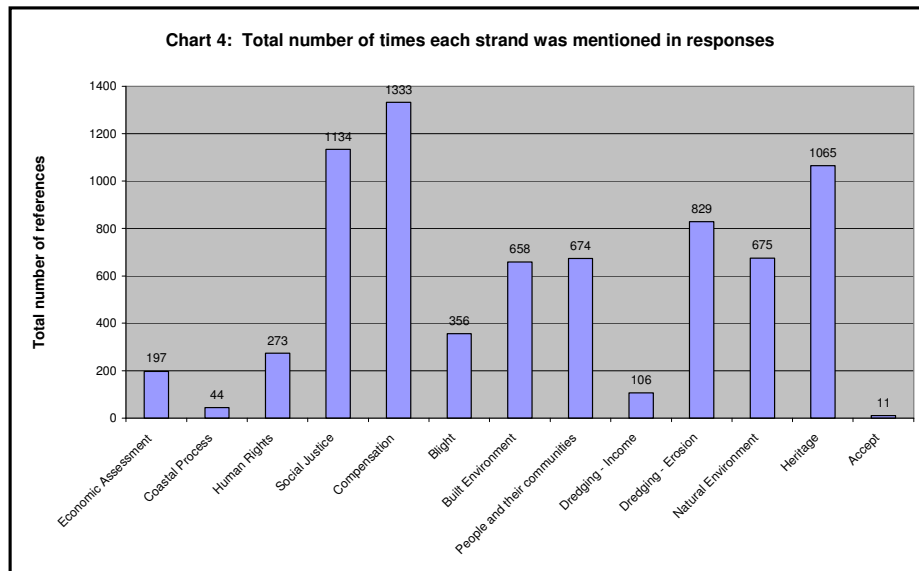
5.2.4 The meetings comprised presentations by Norman Lamb MP and Malcolm Kerby, Chairman of CCAG, and a slide presentation showing details relevant to the specific villages where the meetings were held.

5.2.5 A question and answer session followed each presentation.

Chart 3: Geographical distribution of locations sending in ten or more responses

5.3 Strands of Comment

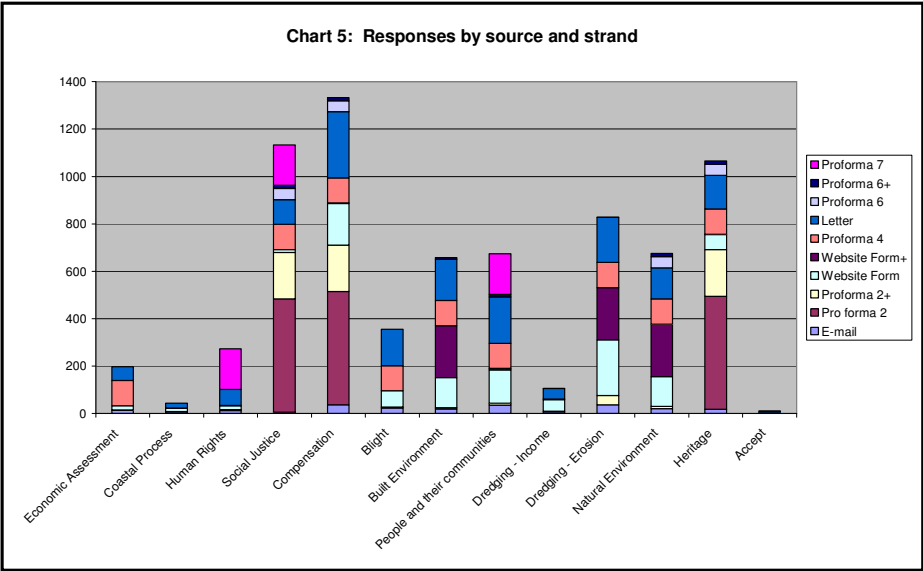
5.3.1 The comments made in each response were recorded against the twelve strands of objection and the “accept” category, referred to Section 6. These were totalled to identify the most common reason for objecting to the proposals. Chart 4 summarises the total number of times each strand was used as a reason to support an objection to the plan. The grand total is greater than the number of responses because responses commented on more than one strand.



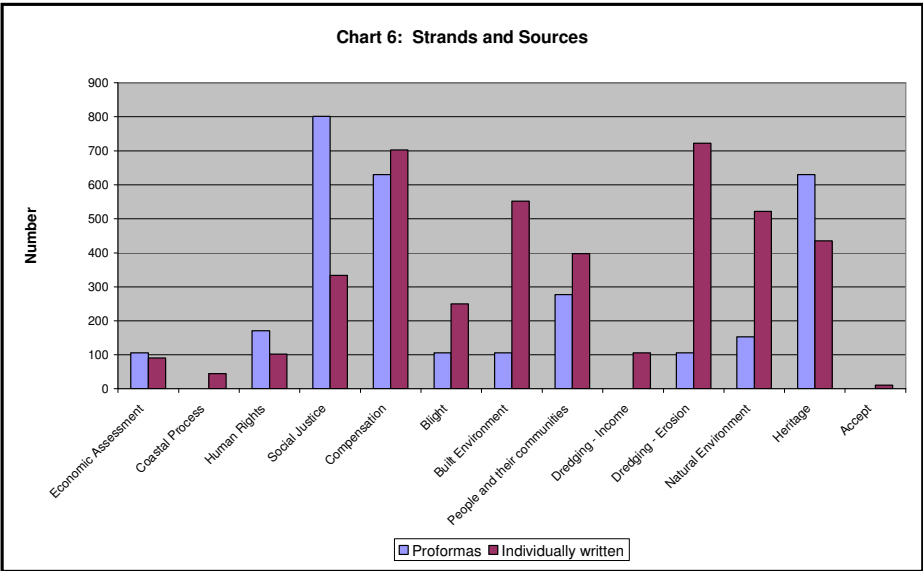
5.3.2 The strands with the highest scores are Compensation (1333), Social Justice (1134) and Heritage (1065).

5.3.3 This reflects a widely held view that it is unfair that there is no compensation to owners who are likely to lose their properties because of the new policies. Proposals to change “hold the line” policies to “managed realignment” and/or “do nothing” were regarded as unjust, particularly as consultees had received recent advice that their homes would be protected in the long-term. Residents living in cliff-top properties believe it is unreasonable to expect them to absorb the full impact of a decision not to defend cliffs whilst other people, living down the coast behind beaches and defences receiving the sediment eroded from the cliffs, benefit. The fact that the policy change could be implemented within 20 years (or one generation) is also regarded as unjust. Some elderly and retired consultees make the point that they live on a fixed low income with few savings. They say they would not be able to afford to buy another property without some compensation for the loss of their present home.

5.3.4 We noted that the pre-printed forms “weighted” the total number of responses against some of the strands and examined the degree to which this influenced the results. For instance, the peaks for social justice, compensation and heritage are related to 477 Pro-formas 2 that referred to these three issues only. Chart 5 illustrates the point.



5.3.5 A further analysis produced Chart 6. This illustrates that the objections of the authors of individual written responses were based, in the main, on four strands - the adverse impact of offshore dredging; the lack of a compensation for the loss of property; the potential impact on the built environment; the potential impact on the natural environment.



5.4 Response from Parish Councils

- 5.4.1 We received responses from 21 Parish Councils⁷. An extremely comprehensive submission came from Overstrand Parish Council, which paid particular attention to the complex process of economic appraisal. Their submission was the result of the work of a number of working parties set up within the parish to address particular issues. We received a number of e-mails seeking detailed information on the economic appraisal process, which was not always readily available. On occasions, there was a delay in providing this information, for which we apologise. Appendix 6 includes a summary of their responses.

5.5 Responses from Businesses

- 5.5.1 30 businesses responded⁸. Appendix 6 includes a summary of their responses.

5.6 Responses from Organisations

- 5.6.1 Responses were received from 34 organisations⁹ representing residents, conservationists, political groups, sports bodies and others with an interest in the area. Appendix 6 includes a summary of their responses.

5.7 Responses from Government and non-Governmental Agencies

- 5.7.1 Two operating authorities replied – Great Yarmouth Borough Council and the Environment Agency. The National Trust, English Nature, Norfolk County Council, Broads Authority and English Heritage also responded¹⁰. Appendix 6 includes a summary of their responses.

⁷ See Appendix 1

⁸ See Appendix 2

⁹ See Appendix 3

¹⁰ See Appendix 4

6 STRANDS OF RESPONSES

6.1 The analysis identified twelve strands (or reasons) for objection, which have been included in the analysis of responses. The twelve strands are, in alphabetical order, listed below.

- Blight
- Built Environment
- Coastal Processes
- Compensation
- Dredging - Erosion
- Dredging - Income
- Economic Assessment
- Heritage
- Human Rights
- Natural Environment
- People and their Environment
- Social Justice

6.2 Inevitably some points raised by consultees will span more than one strand and there are clear links between some of the strands e.g. between “Compensation” and “Social Justice”, “Natural Environment” and “Heritage”.

6.3 We have also analysed those responses that supported any of the proposals as an “Accept” category.

6.4 Blight

6.4.1 Summary: The impact of the SMP policies on property values where there is a proposed change of existing policy from “hold the line” to “management realignment” and/or “do nothing”. There is a concern that the immediate effect of the Plan will be to blight coastal areas of the Norfolk coast. Within the zone identified as being under some threat during the lifetime of the plan there is a fear that property values are being depressed leading to financial loss by owners. Consultees quote specific instances when property sales fell through, following the publication of the draft plan. They also report that some postal areas are having difficulties in arranging insurance and mortgages for their properties.

6.4.2 Examples of quotes included in responses:

“The proposed abandonment of Overstrand has already had a detrimental effect on the value of my property. The value of my children’s inheritance will slowly reduce to nothing.” (Ref. 2022).

“When we bought our house and business years ago the policy was “Hold the line”. It is totally irresponsible for Government to then change their minds and not be held to account for the collapse of the spirit of the community and render the results of years of hard work to build up a business and buy a property worthless.” (Ref. 348).

“We strongly object to the plans and are very surprised that such plans should be considered. Some postal areas are also having difficulties in arranging insurance and mortgages for their properties.” (Ref. 2028).

“...three property sales were terminated as a direct result of the SMP and nothing has sold since.” (Ref. 1695).

“The most immediate effect of the Plan will be to blight whole areas of the Norfolk coast. As existing defences disintegrate, we will lose increasingly large areas of land, along with homes, businesses, livelihoods, amenities, natural habitats and agricultural land.” (Ref. 2084).

6.5 Built environment

6.5.1 Summary: This covers the impact of the plan on the buildings, facilities and infrastructure in urban areas and villages. Consultees object to the predicted loss of a large number of houses, businesses, amenities, facilities and services. They believe that the quality of the built environment will reduce as it becomes uneconomic to maintain and improve buildings and infrastructure with only a short-term future. It is argued that the loss, through coastal erosion, of community assets, such as schools, shops, post offices, churches and village halls, will lead to the gradual decay in the quality of life and the inevitable “death” of the community. A number of respondents have been keen to point out the far-reaching effect of instances where the coastal road network is severed. They also comment on the potential fate of coastal outfalls including those from the sewage system serving the local communities.

6.5.2 Examples of quotes included in responses:

“Yet another unknown quantity is the effect of the proposed wind farms. Apparently a major feed pipe is to go through the centre of Overstrand. If Overstrand is to be left to the elements, the construction of this pipe will need to be amended.” (Ref. 156).

“..no public utility will wish to spend money maintaining plant if it will crash into the sea.” (Ref.)

“We wish the plan to be revised to protect a thriving, historic and delightful village and coastline.” (Ref. 226)

“We moved here in July 2004 to retire to the coast and within months our lives have been turned upside down with the threat of losing our home within 20 to 50 years – this has already affected the value of our home and filled us with concern and worry that these plans may well go ahead and how can we continue to live here.” (Ref. 2323).

I understand there is not even going to be any protective work or repairs to the existing groynes, breakwaters or even the promenade steps and that this gives an estimated 25-50 years lifespan to the village. I find this unbelievable and hope that the plan is scrapped and a regeneration programme adopted. (Ref. 2088).

6.6 Coastal Processes

6.6.1 Summary: Coastal processes includes sediment characteristics and transport; long-term processes; how the coast responds to tides and waves; and beaches. The current experience at Happisburgh where the cliffs have eroded at a far faster rate than forecast is often quoted as a reason to question long-term predictions for erosion in the plan. Consultees state that the erosion predicted to take place over a 20-year period by the 1992 Happisburgh coastal strategy has taken place in under ten years. This, in turn, has led to some consultees challenging the predictions for coastal erosion and sediment transport along the rest of the frontage. Some suggest that more research is needed before accurate predictions can be made and policies established. Others challenge the assertion that sediment transport is in a southerly direction. Consultees seek a range of erosion rates and assurances that the remaining defences will not be outflanked. Some respondents believe that more account should have been taken of local opinions about coastal processes rather than placing too much reliance on scientific analysis. Within this strand we have also considered comments about the past and proposed management of coastal defence structures. The notion of a continuous supply of sediment along the plan frontage from north to south is queried in some responses where the effect of the “hold the line” units is questioned – will these not interrupt this flux and, if not, why can the same protective techniques not be applied in front of all threatened towns and villages.

6.6.2 Examples of quotes included in responses:

“The defences erected some 7 years ago worked. Why not re-build them?” (Ref. 30).

“What has stuck us straight away is the failure of the Authorities to even give consideration to the most sensible course of action which is the maintenance of the present coastline It would seem the Authorities are “hell bent” on letting the sea defences collapse.....” (Ref. 276).

“The plan is already out of date, cliff erosion in some places, such as Cart Gap, has already passed the lines on the map which purport to show the predicted loss of land over the next twenty years.” (Ref. 51).

“(The plan) is based on a mixture of projections and supposition which current experience (e.g. at Happisburgh where the coastline is eroding far faster than forecast) suggests is inaccurate.” (Ref. 472).

"Erosion of local cliffs is due mainly to underground springs outfalling on the cliff face. Some serious but relatively inexpensive work could reduce erosion dramatically."(Ref. 212)

"All these developments have contributed to the changing of underground watercourses which, in their path beneath the cliffs have caused erosion on a large scale. (Ref. 356).

"It is patently obvious that the principal reason for the 'abandonment to the sea' policy is to save the cost of repairs to the established sea defences" (Ref. 299).

"There has been proof of beach migration to the south and also the reverse. The SMP seems to imply it is predominantly to the south. It is not." (Ref. 562).

"Shoreline defences are surely going to be breached in unpredictable ways, as a consequence of sudden and violent sea surges and storms, causing widespread havoc with flooding inland along river basins." (Ref. 485).

"Previous projections of rates of erosion have grossly underestimated the speed of erosion of our coastline. The plan should, as a bare minimum, have shown both minimum AND maximum possible rates of erosion for each of the time periods shown. Failure to do this shows how untrustworthy a document this is." (Ref. 649).

"Hundreds of millions of pounds are spent on river flooding defences. Homes flooded by river water can be repaired." (Ref. 953)

"In our villages we have fishermen and lifeboat men who have more knowledge of the sea and tides in their little fingers than the whole government put together." (Ref. 1004).

"What effect will the proposed harbour at Great Yarmouth have on the beaches? Surely this will disrupt the movement of sediment along the coast." (Ref. 1559).

"The SMP document gives the impression that a naturally functioning coastline (the ultimate goal of the plan) would have gradually moving sediments along the beach giving a natural barrier to high rates of erosion. But the 1953 storm event shows that the largest erosion occurs during these large and smaller storm events." (Ref. 1531).

“(The repair and reinforcement of the existing lines of defence) may itself be a relatively costly exercise, but will surely be more cost effective to do so now and avoid a logistical problem of relocating large numbers of the population to other areas or become entangled in financial settlements. With this underway, greater attention and time can be given to research into coastal erosion, ways to protect the coast and the effects of offshore dredging...” (Ref. 2039).

“The cliffs to the west (unprotected) are supposed to be depositing sand that Overstrand is stopping. Where is all this sand? Halcrow state material reaching Overstrand will be deflected offshore and lost. Halcrow’s statement is incorrect. Why hasn’t the sandbank outside the low between Cromer and Mundesley not gone east as predicted by Halcrow? Sand from Cromer will continue to protect SMP cliffs. Halcrow depend on taking sediment from the cliffs which the sea seldom reaches and where rotational slum seldom occurs. The tidal flow is too weak to divert sand offshore. Halcrow has not considered Counter flow. They appear to have no real knowledge of tidal flows in the Cromer and Overstrand areas. There is no accurate figure for sediment supply from the cliffs. (Ref. 2428)

6.7 Compensation

6.7.1 Summary: Comments concerning the lack of compensation to owners who can expect to lose their property from coastal erosion over the period of the plan, particularly when the proposed defence policy is to change with time from “hold the line” to “managed realignment” and/or “do nothing”. A number of parallels are drawn between the situation with coastal property owners and those affected by road building schemes where, it is perceived, fair financial recompense is available. The argument is sometimes linked to the view that the affected owner has to withstand the financial loss to provide a benefit for the wider community i.e. in supplying sediment for down drift beaches. The compensation issue is also linked by some to the disruption and resettlement costs likely to be incurred by displaced families. There is reference to the effect on displaced businesses and people losing their jobs.

6.7.2 Examples of quotes included in responses:

“The strategy for a managed retreat is fatally flawed, because nowhere are there any proposals for compensation for those required to lose their homes, lands and livelihoods.” (Ref. 95).

“Why am I not going to be compensated by you for deciding that I’m going to lose my main security? What gives you the right to take over my property? This is a democratic country, don’t dictate to me.” (Ref. 2042).

“This is not fair to expect people to lose their homes and receive no compensation.” (Ref. 2055)

“It is unacceptable that the generation who happens to live and own homes in coastal communities at the time the rules change, from a position of defending the coastline to one of abandonment, should lose everything. Without compensation, blight is likely to set in straightaway. A compensation scheme would give people renewed confidence to buy into and live in these schemes. Such a scheme would also force Government to assess the advantages and disadvantages of defending a specific stretch of coastline more objectively. At present, abandonment is a nil cost option.” (Ref. 1427).

“We are expected to pay with our homes and receive no compensation for the inconvenience and heartache that we are already going through.” (Ref. 1530) “Is warning given to those purchasing homes in this area that value will drop?” (Ref. 2023).

6.8 Dredging - Erosion

6.8.1 Summary: Many people believe that offshore dredging for aggregate increases the rate of erosion at the coast. They remain to be convinced by the assurances of the dredging industry and Government experts that there is no link and suggest that dredging should cease until there is more certainty and a better understanding of the inter-relationship, if it exists. Consultees believe their arguments are supported by the comment in the first paragraph on page 10 of the Consultation Document, which suggests it is uncertain that there is such a link. Whatever interpretation is put on this remark, a number of respondents believe that the plan is dismissive of the potential effect of dredging. Consultees refer to practice in other countries, particularly The Netherlands, where they believe dredging close in-shore is not permitted. The statement in the plan that the effect of dredging is uncertain is challenged by the dredging industry, which points out that the current procedures ensure no adverse effect on the coast.

6.8.2 Examples of quotes included in responses:

"...dredging should not be allowed so close into our coastline, scientists have already confirmed that dredging can be the cause of coastal erosion and have a detrimental effect on our beaches." (Ref. 10).

"It has been stated that there is no evidence that offshore dredging affects coastal erosion.....Surely common sense dictates that this is being achieved by the sediment being taken out by the dredger being replaced with sediment from elsewhere. Before any credible SMP is presented there must be more research into this" (Ref. 784).

"The SMP effectively dismisses the concern over the impact of offshore dredging on coastal erosion in one small sentence "the effects of offshore dredging are uncertain". It cannot be right that a plan is formulated which will condemn rural coastal communities, and ultimately huge inland areas of North Norfolk, to the sea when a major potential factor such as dredging is not understood and has an uncertain effect!" (Ref. 2335).

"Seems completely wrong to continue to grant licences for dredging marine aggregate from the sea when the effect of dredging on coastal erosion is uncertain and it may be that dredging and erosion have an interrelationship not fully understood. (Ref. 2076).

"The Dutch authorities have already banned dredging close to their shoreand the same ruling should apply here." (Ref. 10).

6.9 Dredging - Income

6.9.1 Summary: Consultees are aware that the Government receives income from the sale of marine dredged aggregate. They also believe that much of the marine dredged aggregate is exported to mainland Europe. Linking this to the general belief that dredging does increase problems at the coast, they demand that the income should be used to fund coastal defence schemes. There is also concern about the perceived conflicts of interest on the part of the organisations involved in the dredging/aggregate industry and coastal management.

6.9.2 Examples of quotes included in responses:

"Why is the Government selling our sea-bed to Holland for their sea defence work?" (Ref. 1695.)

"The crown/government is happy to make large sums from dredging close off the east coast, but it ignores its implications." (Ref. 2014).

"At a local meeting.....it was also pointed out to us the connection between people concerned with this plan and the company which is licensed to dredge off our coastline and sell to other countries." (Ref. 406).

"What contribution to coastal defences are both the dredging companies and the Crown Estates, who take their licence money, making to the costs of damage caused by their actions?" (Ref. 1530).

6.10 Economics

6.10.1 Summary: Comments on the perceived inadequacy of the economic appraisal process that compares the costs of defending the coastline with the benefits achieved from undertaking the defence works. Consultees refer to Appendix H3.1.1 which states “Losses and benefits have been calculated only upon the basis of residential and commercial property values. Other assets, such as utilities, highways, and intangibles, such as recreation, impacts upon the local economy and environment, have not been valued or included. Exclusion of these factors will robustly confirm economic viability, as these would provide added value.” Consultees believe that inclusion of the items excluded from the appraisal could justify maintaining existing defences. Others question the accuracy of and method of determining the property valuations and the absence of the value of tourism to the area. Some consultees challenge the base information used in the analysis e.g. the classification of Overstrand as a residential area without considering its tourism importance and the economic activity associated with some of the buildings from which businesses are run. The way in which central Government allocates funds is also challenged. This is manifest in a number of aspects – the disproportionate allocation between East Anglia and the South coast, between inland areas subject to river flooding and the coast and between coastal defence and other Government responsibilities such as overseas aid

6.10.2 Examples of quotes included in responses:

“(In the cost benefit analysis) no allowance has been made for the reconstruction of highways lost to the sea; the replacement of electricity transformers, gas and water mains; schools, village halls etc.” (Ref. 377).

“The costing of the plan is severely flawed in that it does not allow for the economic effect on the area.” (Ref. 473).

“The SMP’s estimate of the value of property lost during the period if the defences are abandoned is £7.7m. I do not consider this to be accurate, but believe the value of property and amenities to be more in the region of the figure in an earlier report in 2004, some £57.9m” (Ref. 1436).

“There has been no proper assessment of the costs of abandonment, ... losses and benefits have been calculated only upon the basis of residential and commercial property values. Other assets, such as utilities, highways and intangibleshave not been valued or included.” (Ref. 1530).

“..the document acknowledges “losses and benefits have been calculated only on the basis of residential and commercial property values. Other assets, such as utilities, and highways, and intangibles such as recreation, impacts on the local economy or environment have not been valued or included.” How can such an important decision be made when we have no idea of the true financial cost to the area?” (Ref. 2037).

“I also understand that the finance for today’s spending on defences is determined in London and not locally, does local opinion for local people not matter any more – obviously not.” (Ref .567).

“I believe that the residents of East Anglia are being discriminated against and that there are other ways to deal with this problem. After all coastal protection is being provided in other areas in the south of England and I am horrified that a government I voted for is effectively telling me and my fellow residents that we just don’t count.” (Ref. 1024).

“ .. cash is available to defend certain land and property - £155M for homes falling into Combe Down Mines; £6M to save Southwold; £12M for tunnelling under Epping Forest to save a cricket pitch.” (Ref.1415).

“The economics section of their (the consultants) report is not only flimsy but also wholly misleading.My conclusion is that other and independent consultants should be engaged with the relevant technical competence to conduct a formal cost benefit appraisal.... This aspect of the report should be rejected out of hand and no decision taken until the economic facts are properly presented.” (Ref .1510).

“Whilst it is virtually impossible for small rural communities to qualify for aid under this (Defra) system, it nevertheless exists and a chance is therefore available. If the proposed SMP is accepted then those areas which are defined under the heading of “no active intervention” will remain so and even the slim chance of help currently available will be signed away” (Ref 2335).

“The SMP is a narrowly focussed technical response to the coastal erosion problem. It does not take into account the financial and social consequences of its recommendations or even suggest how others might address these issues. The “plan” is therefore incomplete and unbalanced and should not, in my opinion, have been presented in this form for consultation/approval” (Ref.1525).

“....all along this coastline people depend on the tourists for their living, and to support their families.....Richard Caborn MP on Anglia Television

March 29th said how much he wanted to encourage more tourists to come to East Anglia" (Ref. 1584).

We find it hard to believe the organisations involved in recommending the plans can justify to not only abandon a village the size of Overstrand but also numerous other villages along the coast causing untold misery to so many people." (Ref. 1572).

"Just the proposal of this plan has caused enormous worry to many residents....already impacting on the whole livelihood of the area. There are many questions left unanswered (including) "What help would there be if residents, farmers and businesses are affected?" (Ref. 913).

6.11 Heritage

6.11.1 Summary: The impact on the heritage and history of the area, which would be lost forever if defences are removed and/or not maintained in place. Particular reference is made to the potential loss of unique historic buildings such as 17th and 18th Century houses in Norfolk, the Lutyens buildings in Overstrand and the churches, including those at Mundesley, Trimingham and Happisburgh, which are under some threat. The heritage value of the buildings and landscape of the Broads is often mentioned.

6.11.2 Examples of quotes included in responses:

"The heritage and history of (Overstrand) would be lost forever. Overstrand provides many jobs, and the tourism which is brought to N Norfolk thorough Poppyland, Lutyens buildings and the history connected with Sir Winston Churchill, is immeasurable." (Ref. 1429).

"Historic buildings at risk will require recording as base-line mitigation, perhaps in some cases followed by dismantling and relocation. All these forms of mitigation require funding which cannot be obtained from local authority sources" (Ref. 943).

"The coastline and lands of Norfolk are a legacy we have inherited from our forefathers and as such should be protected and cherished into the future." (Ref. 1532).

6.12 Human Rights

6.12.1 Summary: The policies are regarded as short sighted and badly constructed. People believe an arbitrary change in policy from defending a coastline to not defending the coastline an abuse of human rights insofar as it affects their “right” to live where they chose. People who have recently been given consent to develop new cliff-top properties object that they are now being told that their land is under threat of erosion. Others point out that they bought property on the understanding that defences would be maintained indefinitely. Many people believe there is a national obligation to provide protection to the community and their property and that they have a basic human right to live in peace and security. In some cases, they have reinforced this view by reference to the European Union legislation on Human Rights.

6.12.2 Examples of quotes included in responses:

“Government has a responsibility to defend the realm and protect its people and ensure that any burdens of loss are shared equitable. Failure to do so clearly breaches Article 8 of the European Convention on Human Rights (as incorporated into the Human Rights Act 1998) which states ‘Everyone has the right to respect for his private and family life, his home and his correspondence’” (Ref. 874).

“Your plan needs to be reviewed and human rights taken into consideration. Nature and people can live together to maintain an equilibrium to save both our environments.” (Ref. 2042).

“I am entitled to live where I choose – but it is not unreasonable to expect security for my home, or is that another thing which becomes part of the post code lottery? Under the proposed scheme our security is withdrawn; our citizen rights are denied.” (Ref. 422).

“The people of Overstrand have every right to demand that their village is protected as much as possible at all times and in every way possible” (Ref.1178).

“I have a basic human right to live in quiet, peace and enjoyment. The buildings will deteriorate. Already abandoned buildings are in decline and this may cause vandalism and decline.” (Ref. 1715).

6.13 Natural Environment

6.13.1 Summary: Objections to policies that may result in the flooding from the sea of the Broads and the subsequent loss of the freshwater areas and habitats. The consequent impact on the economy of the area from the loss of income from tourism, which supports the costs of managing the natural environment. Under this heading we have also considered comments made about the impact on the landscape and Areas of Outstanding Natural Beauty in particular.

6.13.2 Examples of quotes included in responses:

"The ...fresh water areas are vitally important to the unique wildlife that inhabits this area in particular the bittern and otters which have only recently started breeding." (Ref. 966).

"Permanent flooding would mean the loss of agricultural land, wildlife and tourism but temporary flooding and salt penetration could also mean serious damage to the Broadland environment." (Ref. 789).

"Why has Halcrow dismissed turbidity and smothering? Why are the important breeding and nursery fish areas not considered?" (Ref. 2428)

6.14 People and their Communities

6.14.1 Summary: There is a belief that the plan takes little or no account of the adverse effects of the medium and long-term effects on people. People state that their health is suffering because of worry and concern about the proposed policies. Those who have moved to the area make the point that their properties represent a life's work that was expected to offer security in retirement and allow them to pass on an inheritance to their children. Elderly consultees make the point that their pension represents their only income and that it could not fund the purchase of another property. It is anticipated by consultees that blight will prevent people moving out of the area and discourage people from moving in. As a result, the average age of the population is likely to increase. This will threaten the survival of schools and other community facilities. We have also included in this strand the expressed views of people about the consultation process itself.

6.14.2 Examples of quotes included in responses:

"But even more important – what happens to the displaced population? Where are 200,000 – 250,000 displaced persons going to be re-housed? Where are they going to find employment? Who is going to fund relocation expenses?" (Ref. 859).

"The plan has not taken into account the true cost to the village.....There is quite a number of elderly, but independent, residents who under the proposed SMP would have to be re-housed – a burden on the state, something they had worked all their lives to avoid. " (Ref. 1850).

"Furthermore there have been no socio-economic factors taken into account. We are talking about a substantial number of people, a lot of whom are retired and/or elderly whose lives will be effectively ruined with attendant emotional upset and trauma, in the face of such a lack of understanding" (Ref. 781).

"The SMP has caused great anxiety and distress in the village (Overstrand). People feel abandoned and worthless, as their properties plummeted in value overnight." (Ref. 1695).

"Just the proposal of this plan has caused enormous worry to many residents....already impacting on the whole livelihood of the area. There are many questions left unanswered (including) "What help would there be if residents, farmers and businesses are affected?" (Ref. 913).

"Previously, construction has taken place on the understanding that sea defences would be maintained (such as at Happisburgh). I believe there is such an obligation in the Coast Protection Act 1949." (Ref. 843).

"Our little café on the top of the cliff is a famous watering hole for...people that walk the path from Cromer.....We employ twelve people. These jobs and many more in the village will be lost. Please re-think your plan." (Ref. 2017).

"I am horrified to learn of the proposed Shoreline Management Plan. It is flawed by a major lack of consultation leading to major inaccuracies regarding tourism, historical significance, environmental and economic issues." (Ref. 1214).

"You show a disturbing ignorance in relation to a number of important aspects relating to Overstrand. This is obviously caused by your offensive non-consultation with Overstrand. We had no representation on the planning group and I would question your competence in running this review." (Ref. 129).

"The whole process of consultation has been handled extraordinarily badly. If the local action group had not drawn my attention to this I would not have been aware of the proposals. For proposals like this, which affect the future of our community, we have the right to be consulted proactively rather than reactively." (Ref. 1109).

"I object to the blatant discrimination against human beings in favour of birdlife." (Ref. 2425).

"In 2001 my sister and I purchased a property in Trimingham after notification from NNDC that the coastline on which our home is located fell into the "maintain the line" category of coastal defences. However, your preferred option for my cottage is to become settlement (sediment?) for the beaches lower down the coastline, so is it any wonder that my stress levels are now increased and that, having been medication free for over a year, I now have to realise there is every probability of having to return to prescription drugs." (Ref. 107).

"What about the stress and anxiety caused by devaluing my property, which I saved for and hoped to use to finance looking after myself when I'm old, rather than burden the country?" (Ref. 2428).

6.15 Social Justice

6.15.1 Summary: This strand includes issues whereby consultees feel that “fairness” has not been applied when developing the draft policies. In the main, this involves properties and land that was previously protected through defences now to be lost. Those who have retired and moved to the area make the point that their properties represent their life's work and savings and that the loss of the property is poor reward for those who have contributed so much to society including fighting in the last war etc. They believe it unjust and unfair that an “arbitrary” change in policy can lead to the loss of their cliff-top properties that were bought on the understanding that defences would be maintained. This contradicts their belief that it is a perceived national obligation to provide protection to the community and their property. Others question why should they should suffer loss of their property and assets for the benefit of others – they refer to the scenario whereby material from eroding cliffs is deposited on adjacent beaches and offers protection to other communities.

6.15.2 Examples of quotes included in responses:

“ residents who have purchased property in good faith, only to have its value drastically cut by government action.” (Ref. 1502).

“It seems ludicrous to me that I, and any others like me, am expected to sacrifice my home for the good of the nation when beaches further down the coast line are already suffering the effects of coastal erosion.” (Ref. 107).

“Why has planning permission been granted and still being granted by North Norfolk District Council in the proposed Overstrand risk areas?” (Ref. 1506).

“.....are you aware that an entire development of 23 new homes have been built within the last 2 years, including 4 whose building curtilage extends to just 50 metres from the cliff edge!” (Ref. 324).

“When my wife and I bought our property we were assured that our shoreline would be maintained.” (Ref. 1186)

“It appears that developers have gained permission from the Deputy Prime Minister's Office after refusal from the District Council. Now we learn they are to be abandoned to the sea.” (Ref. 395).

"We purchased our property (newly built) in 2002 after checking with North Norfolk District Council that the property was not under threat from erosion. We now learn...that Trimingham's coastline will no longer be defended." (Ref. 1223).

"We put our life savings into our home (in Overstrand). The news about the Shoreline Management Committee's proposals to withdraw their continued support has come as a devastating blow to us and is totally unacceptable." (Ref. 1513).

"I bought my bungalow three years ago for my retirement and to enjoy and support local community and its way of life here in Norfolk. We are going to loose our home and all I have worked for over the past 42 years f my working life." (Ref. 1637).

"I purchased my bungalow in Overstrand facing the sea as my permanent home to retire. When buying I had no reason to believe the "hold the line" adopted by NNDC would be changed." (Ref. 1715).

"Sea defences were in place when we bought the property and having such defences to be allowed to crumble was never even considered in anyone's worst nightmares!" (Ref. 2014).

"We bought two years ago on understanding the policy was then and would always be hold the line." (Ref. 2017).

"I bought my house ... knowing that a hard defence was at the bottom of the cliff." (Ref. 2042) "My father fought in World War II and my grandfather died in World War I. I am appalled that that our land and homes should be given up after such sacrifice because of inaction by government." (Ref. 2425).

Money is always found for wars, animals, birds, overseas help, young unemployed who have not paid a penny into the system, yet older people who have served their country in war or the younger retired, who have worked and saved for their need in old age, find that they are to be abandoned alongside their village." (Ref. 1429).

"When people have spent their whole lives looking after their homes and businesses what right has the Government to say...we'll let you fall into the sea?" (Ref. 1004).

“our dream was to retire to the coast and enjoy entertaining our respective families in this beautiful part of North Norfolk....In one foul (sic) swoop you have destroyed all our hopes and aspirations” (Ref. 1185).

“Now we are feeling very sad and disappointed that the money we have invested in this property, and the thousands of pounds we have spent in renovating this property, has all been for nothing.” (Ref. 1698).

“We did not work hard and use our life savings (including pension provisions) to buy our house and just accept that nothing can or should be done to save it.” (Ref. 2018).

My parents have always told us that we will inherit the house ...if there is a house still standing we will not be able to sell it!” (Ref. 2055).

“..this (the tsunami) was a devastating tragedy...but would it not have been better for some of the Government’s millions to have been put into our own sea defences.” (Ref. 1178).

“The people of Overstrand.....have been treated unjustly, discriminated against and treated unfairly by inadequate consultation that failed to provide equal opportunity to all communities and organisations.” (Ref 1506).

“..to switch from hold the line to allowing the coastline to retreat naturally without an interim stage is not socially acceptable.” (Ref. 2060).

6.16 Accept

- 6.16.1 Summary: Consultees were asked if they supported the any of draft policies for the management of the coastline. Support is offered by organisations seeking sustainable management of the coastline. They wish to see it managed so that it can respond the natural and climate change-related processes. Individuals offer support for the policies on a local basis.

"We welcome the SMP "as a useful base for the future sustainable management of the Kelling to Lowestoft Ness coastline. We note the importance of the cliffs of the Norfolk coast as an international nature conservation area of importance and that the flora and fauna of the area is reliant on the continued natural erosion of the cliffs to maintain a suitable habitat. We feel that the SMP is flexible enough to take full account of environmental, social and economic factors....whilst clearly setting out the long-term management options for the coast" (Ref. 1108).

"I accept the policy for the shoreline because I realise that there will come a time when Waveney DC cannot justify maintenance of the revetment below my land. Would I be allowed to undertake maintenance work myself?" (Ref. 325).

"Local policies (Corton area) are acceptable. We recognise the 20 to 30 year-life of the Corton defences and that these are not renewable afterwards." (Ref. 326).

"Policies are acceptable. Understand the issues. Realise that the current policy for Corton will not be able to be continued after the defences fail." (Ref. 327).

"Policies are acceptable. I am concerned at the way property owners in "the Marrams" have done various excavations in the dunes. This can't help. (Ref. 1645).

"I support the plan in general and the guiding principles as an essential framework for the plan. Technically the plan is realistic and based on sound thinking. Although this leads to serious implications for the longer term future of property, settlements and facilities on the coast." (Ref. 2105).

APPENDIX 1**List of Parish Councils responding**

Name	Summary of response
Bacton Parish Council	Proforma 2
Beeston Regis Parish Council	The coast depicted in the plan is unacceptable and as such, the Plan is unacceptable to the Parish Council.
Belton with Browston Parish Council	Strongly object to the document in its present form. Concerned about management realignment and impact on villages from N Caister to Hopton.
Hemsby Parish Council	Implications for the loss of property in the Parish mean that Councillors cannot accept the SMP. Supported by a petition rejecting the SMP due to: loss of property, business, holiday trade, agricultural land, wildlife and conservation areas, impact on the Broads and that there is no compensation.
Hickling Parish Council	The Parish Council rejects the SMP because of its devastating effect on people, landscape, and ecology of the area. Plus the loss of Wetland habitat. Also, could the EA take onboard the concern about dredging on fish stocks and coastline and explain better the DEFRA funding rules.
Hopton Parish Council	Effects of North Sea dredging on the coastline; Explain full effects of global warming; Consult with the Netherlands on wind farms, dredging, methods of defence. More positive about time scale of changes; identify the areas most likely to expect drastic change

Name	Summary of response
Horning Parish Council	Policies unacceptable. The losses and benefits have not been fully calculated. Impact of dredging needs reviewing. Cannot let nature eat away at our shores because impact on coast and inland would be catastrophic.
Lessingham Parish Council	A more gradual approach to the change from hold the line to natural retreat with intermediate stages. A graded rate of less intervention. Investigation of a system of compensation. One umbrella organisation to manage the entire coastline. Integrate the SMP with the Broadland Flood Alleviation Project. Research into offshore dredging.
Martham Parish Council	Reject the SMP because too many uncertainties. Looking for more research into dune systems, tidal drift and offshore dredging. No account of the "real" costs of managed retreat. "Gloss over" the impact on the Broads. Until research completed they expect the hold the line policy and the "line" to be defined.
Mautby Parish Council	The Parish Council agreed no decision on the SMP until "costs and assessments" have been carried out.
Mundesley on Sea Parish Council	Proforma 2
Ormsby St Margaret, Scratby Parish Council	The Parish Council feel that little account has been taken of "very local conditions". They also feel that the plan is "uncosted" and look for compensation for property owners who are being abandoned.
Overstrand Parish Council	Detailed response to be analysed by Halcrow Group
Potter Heigham Parish Council	Impact on "the most important wetland in Britain" as well as requesting compensation scheme and the short-term research "whose forecasts are already being shown to be unreliable"

Name	Summary of response
Repps-with-Bastwick Parish Council	Rejects the SMP for planned retreat. Population penalised by property and insurance values, false time-scales on predicting future events, lack of dredging the river system will be unable to deal with the dispersal of flood waters, there does not appear to be an alternative plan and finally the continued extraction of aggregate should be curtailed until independent survey done.
Sea Palling & Waxham Parish Council	Totally objects to plan.
Sidestrand Parish Council	Following the amalgamation of coast protection and inland waterways flood relief budget, the coast is losing out to inland areas. Alternatives not considered in depth or given equal analysis.
Somerton Parish Council	Compares some of the SMP issues with the Coastal Habitat Management Plan produced in January 2003 i.e. short-term data and data could be unreliable. Looking for: regular newsletters from the Environment Agency, Independent investigation regarding dredging, EA to be responsible for the whole coastline, better explanation of DEFRA funding allocation.
Stokesby with Herringby Parish Council	The Parish Council agreed no decision on the SMP until "costs and assessments" have been carried out.
Trimingham Parish Council	Proforma 2
Trunch Parish Council	It is totally unacceptable to abandon this stretch of coastline without compensation. Defending towns will be useless without preserving the infrastructure. The loss would be greater than anticipated. It is a short-term plan to save money. Slow retreat may be inevitable but compensation must be paid.

APPENDIX 2**List of businesses responding**

Name	Summary of response
Aylett & Associates(Consulting Engineers (Electrical, Energy and Safety))	Identifies that no consideration has been given to water depth, and the feasibility of maintaining, supplementing or prevention of erosion scour patterns. Suggests that the solution is to maintain a smooth coastline "keeping the long-shore twice daily flows in a channel between the smooth channel between the defended and supplemented beaches and cliffs and the offshore banks typified by the Scroby and similar banks two miles off".
Beach Rock Leisure Limited	Objects as residents and business owners. More scare mongering for coastal residents effects property prices. Flooding issues causes great distress for people. If Government can spend millions fighting war, why can it not afford a few million for E Anglia?
British Marine Aggregate Producers Association	Worried that the draft SMP has "further reinforced" the perceived link between dredging and erosion along the coast. The SMP does not accurately report the current position. "At no stage...has any further approach been made to the directly to industry for further information". As well as the Southern North Sea Sediment Transport Study, there are Coastal Impact Studies. These could be made available but insistence is placed on them being preceded by a technical briefing. Reference also to the Broads Research Advisory Panel seminar on 18/11/04. In essence, the uncertainty from the SMP is thought to be unhelpful. Large amounts of data available re monitoring the seabed. Would like to meet Halcrow to discuss and clarify which would better inform the public of the role of marine dredging.

Name	Summary of response
Burnley Group Partnership	Believe that the policy of hold the line should be maintained for 50 years to enable proper evaluation to be made of the options and consequences of retreat. Compensation is a matter of equity, as a change of policy would impact unfavourably on those who acted prior to the change. The Broads is a World Heritage Site and their salination would lead to a great range of flora and fauna. Debate about offshore dredging need to be resolved especially as the Dutch, for example, do not dredge. A possible solution is provided by advance alignment by soft defences out from the existing shoreline. The costs of this approach need to be considered
Buskell Engineering	Proforma 2
C S Gray Builders Ltd, & Holiday Properties Mundesley Ltd	Argues that a true hold the line would mean defences repaired if they failed - this is not what the plan says. Compensation for people and businesses or replacement homes or businesses. The plan is "fatally flawed" because it underestimates the rate of erosion, does not account for the cost of infrastructure and is misleading as to the impact of erosion where an Erosion Report last year concluded that there was a link to coastal erosion.
Castaways Holiday Park	Economic impact on business and compensation
Cliff Top Café	Petition signed by 480 people
Coastal Concerns Ltd	Request for an extension of time to reply - granted
Customised Phone Covers	Mr Manners thinks that "the Council" should have written to every domestic and business premise in the affected area.
DLA Town Planning Limited	An independent body to analyse the report and present its findings. Suggests that the continued maintenance of the existing sea defences is economically viable. Also co-operation between industry and local councils, compensation, reconsideration of dredging.

Name	Summary of response
Eastwood Whelpton Limited	The Broads is an internationally famous area for training young sailors. Nelson learnt to sail on the Norfolk Broads. The Broads are a "unique and safe haven for young sailors".
F W Smith, Builders	Recently built a bungalow affected by pla. Plan would create hardship, blight, unemployment, and loss of heritage. Property values have been underestimated.
George Smith & Sons	Strongly objects to proposals to allow thousands of acres of beautiful coastline to be lost to the sea.
Haines Marine	The employment in Catfield, somewhat inland from the coast but not isolated from the impact of the SMP, has a number of factories employing over 300 people. Haines Marine is looking for a cost effective way to stop erosion, stopping dredging, producing coastal reefs and compensating residents. Also, publish the conclusions of worldwide research on seabed dredging. Joined up thinking between DEFRA and Environment Agency is necessary. More information should be given to the public.
Hanson Aggregates Marine Limited	Denies the "uncertain" conclusion of the SMP and looks for the statement to be removed. Hanson have data they will share as part of the most rigorous dredging assessments carried out anywhere in the world.
Happisburgh Estates	Issues should be embraced as a regional problem. Compensation for "those who these proposals choose to place at a total loss of all they have worked and saved for"
Horse Estate	Mr Buxton's life's work has been managing the estate and seeing the wild life enhanced. There is a formal arrangement between the Estate and the National Trust. Mr Buxton witnessed the 1938 sea flood as a boy of ten years old "and it was a dramatic scene at Horsey and beyond. Many people, past and present, would be shocked to see suggestions that the defences put in place in 1938 were in vain".

Name	Summary of response
HR Wallingford (Dr A Brampton)	<p>I believe that this draft version of the SMP has unnecessarily given credence to locally held views regarding the alleged consequences on the coastline of offshore aggregate dredging by stating the effects of this dredging are “uncertain”. I see no justification within this document for such a statement from scientific or engineering viewpoints. While I appreciate the strength of feeling in some communities about this issue, and hence the pressure that Halcrow must have felt when addressing it, I am most surprised by their conclusion.</p> <p>If Halcrow, in their professional opinion, feels that the many previous studies into the effects on the coastline of offshore dredging have not been sufficient to rule out such adverse effects, then that opinion should be explained, ideally demonstrating and quantifying the mechanisms by which such dredging might damage the coastline. This is the more important given the large amount of dredging that has been necessary to provide beach sediments for the coastline between Sea Palling and Winterton in recent years, a recharge scheme for which I believe Halcrow are the consultants appointed by the Environment Agency. Has this “uncertainty” been previously mentioned in their appraisal of the effects of that dredging on other stretches of coastline, for example?</p> <p>Notwithstanding the many studies into the effects of offshore dredging that have concluded the present “checks and balances” are sufficient to ensure no adverse effect on the coast, we are still open to counter-arguments based on sound science, and have ourselves suggested independent reviews of both the studies and the dredging itself (see conclusions of the SNS2 study). It is regrettable that Halcrow has not added anything positive to this debate in preparing this SMP, but have presented an unsubstantiated conclusion that could be easily regarded as a weak reaction to public opinion rather than a professional assessment.</p>

Name	Summary of response
Ivy Farm Holiday Park	Tourism and visitors generate £1.9 billion each year in Norfolk with some 4.6 million visitors. Shocked, stunned, and find it unbelievable that to think anybody has the right to decide our future. We have offered help to Tsunami victims and rightly so. We could save our coastline before it becomes a disaster. Fourth generation owners hoping tradition would continue. Have improved park at considerable cost and achieved awards. Now expected to sit back while our heritage, homes, village and way of life disappear over cliff to rejuvenate other beaches and wildlife areas. Government funds must be made available to continue to protect coastline.
Landmark Landscape Consultants	Childhood spent in Overstrand. Formative years in a place thick with accent, history, weathered flint walls and occupied by people of substance. Must find resources to preserve Overstrand.
Norfolk Holiday Cottages Association	Notes of an Association meeting look for compensation for business and homeowners. Offers some observation about how the compensation may be calculated. Further observation about the need to protect Overstrand, and Mundesley.
PK Consultancy	Proforma 6
Riverside Estate	Plan unacceptable because it leads to loss of so many villages and so much freshwater habitat. With real threat to Broads. How can the sea level rise be predicted for 100 years when global dimming is now identified? Allow offshore wind farms to generate income. Offshore banks should not be dredged.
S W Chapman & Partners	Proforma 3+
Thurne Bungalow Management Co Ltd	Proforma 3+

Name	Summary of response
The Area Partnership	Accept it is unrealistic to hold the line. Acknowledge the difficulties in preparing the plan, but it raises rather than resolves issues. No reference is made to people or businesses and there is no compensation having a "democratic deficit from inception". Offshore dredging has not been proved not to be exacerbating the situation. Even if rejected by NNDC the present Defend the line is seriously under funded because of the allocation of available funds to river flooding schemes. Noted that many of the areas affected by this plan are in areas of high social and economic deprivation.
The Manor Hotel	Reliability of plan timetable, little known about the impact of dredging, full compensation for affected parties. Also, asks where people will be relocated and looks for compensation for the stress involved and what solutions regarding at risk graveyards.
Thurne Bungalow Management Co Ltd	Proforma 3+
W L Ritchie & Partner	Proforma 6

APPENDIX 3**List of organisations responding**

Name	Summary of response
Bacton Sea View Association	<p>Overview: SMP is "a well considered and thought provoking document". Impact of the problem and the consequences of action or inaction require that this be dealt with at the highest level. The plan must be clearly understood and not "tarnished by the shadows of uncertainty or expediency". Once agreed there must be commitment to the strategy. Part 1: Questions about the communication and consultation process which undermines the validity of the consultation process. Compensation would deliver an acceptable strategy and the cost benefit analysis must represent these costs. Dredging and its impact on the coast is of considerable concern and the SMP does not do enough to address the issue-urgent action from a publicly accountable body to research this area is needed. Managed retreat/realignment cannot be done for free. The background papers offer little in the way of evidence of the funding available. Financial evaluations appear "thin" and superficial. The SMP may be a high-level document but the implications are very much ground level. Some concern about a 60% optimism bias. Finally, in part 1 the group are looking for a rationalisation of the diverse range of groups who currently share responsibility for strategic development and execution of flood and coastline defence. Part 2: Compares statements from the 1996 SMP and the 2004 SMP and contrasts the difficulty the public would have reconciling the two. Bacton to Walcott area is dealt with in some detail calling into question the impact of the amount of useful sediment from the low cliffs released by erosion. Particular attention to groyne maintenance and useful life. The group also look for, in this Part, a detailed cost Benefit analysis for the area of Bacton to Walcott before any plan is adopted. In particular, it is concerned about beach nourishment in the first epoch which will be abandoned as Bacton, Ostend and Walcott are abandoned.</p>
Beach Close Residents Association	"Badly thought out" plan. "Decision not to contribute to our coast maintenance policy"

Name	Summary of response
British Dragonfly Society	Concern that over time saline deposits will replace freshwater in the Broads. Concern over phrases used regarding timing. The Broads are SAC, NNR and a wealth of SSSI and it is important to protect this national and internationally recognised area. Dragonflies require slow moving freshwater in which to breed and a change to saline conditions would be bad. Example used of the Norfolk Hawker. Need to recreate in advance of any loss a compensatory habitat.
British Reed Growers' Assoc	Particularly the Happisburgh to Winterton section. Approve hold the line for 50 years whilst alternatives are researched because reed beds take 10 years to come to maturity but concerned that the retreat the line in other areas means reed beds lost before such retreat by not being maintained. Allied to this is the local skills base that would be threatened too.
Buglife, The Invertebrate Conservation Trust	Buglife welcomes the SMP "as a useful base for the future sustainable management of the Kelling to Lowestoft Ness coastline. Buglife notes the importance of the cliffs of the Norfolk coast as an international nature conservation area of importance. Further, it notes that the flora and fauna of the area is reliant on the continued natural erosion of the cliffs to maintain a suitable habitat. "We feel that the SMP is flexible enough to take full account of environmental, social and economic factors....whilst clearly setting out the long-term management options for the coast" (www.buglife.org.uk)
Clifton Park Residents Association	The proposals are not costed properly. Infrastructure costs not included. Impact on the environment and on the local economy not assessed. Need to integrate The East of England Plan and the impact of global warming. Social costs associated with blight on property values. Compensation scheme required. Moratorium on building in coastal areas. No information on how people should lobby for change to the plan. Moratorium on dredging until full study done. Move to a national SMP to give consistency.
Coastline Village Residents Association	The Association feel that the plan is drawn up on purely an economic basis with "little or no thought given to small communities, individuals who live in those communities, the property and land these individuals own and their well being if they have to move house".

Name	Summary of response
Council for National Parks	Welcome for the in depth consideration to the effects the proposals will have on the Broads Authority area. It is important that the significance of the various protections and recognitions of the area are fully weighted so that funds can be released for the EA to recharge beaches. The organisation sees managed realignment as the most sustainable solution for the area but concedes that hold the line is necessary in the short term. Finally, a lack of financial mechanisms "to enable those land and property owners...to consider alternatives" reduces the credibility of the plan.
Country Land and Business Association	"The SMP must be understood primarily as a means of managing a dynamic physical process and guiding future decision making. It should not be an exercise in the application of current funding formula." The Cost Benefit model undervalues the long-term benefits in relation to the upfront costs. "The CLA believes that the SMP should seek to manage the coastal processes...based on an understanding of the ideal sediment budget for the coast." Further the current level of interference cannot be neutralised by abandoning defences between Cromer and Yarmouth. The strategy should be to conserve beaches by sand nourishing and soft engineering techniques. The CLA opposes the adoption of the SMP, as it must be part of a longer process of rethinking coastal policy. Final point requires\attention to the dredging debate because of the huge concern.
CPRE	Supportive of the approach of working with natural processes, taking a much longer term strategic view, employing the sustainable approach to issues, providing the opportunity for open, transparent debate. Therefore, part of the solution must include compensation. Finally they recognise that a 100% go with the natural process is not a realistic option. They lay out a possible formula for compensation, which is "simple and workable".
East Anglian Society of New Zealand	A petition against the proposals.
Great Yarmouth Liberal Democrats	Suggest offshore reefs to protect the coastline. Also, note the loss of villages and property as unacceptable together with the loss of the fresh water habitat in the Upper Thurne area. Compensation and an investigation into the impact of offshore dredging.

Name	Summary of response
Martham Boat Dyke Trust	In particular, hold the line "Eccles to Beach Road Winterton". Largest breeding colony of Little Terns on the east coast. Plus grey seals in the winter. Natterjack toads in the Marrams which are home to endangered species. Beyond this is the habitat of the otter and great crested newt. And between Waxhan, Winterton, Martham and Hickling provides the habitat for orchids and worts as well as hen harriers, marsh harriers and the bittern. The trustees go on to seek compensation for "all house owners". The trustees also mention the human cost as homes and houses are lost and the tourist trade is lost. The trustees are convinced that dredging affects the shoreline and if it must continue the funds derived from it should be directed to giving compensation to affected homeowners. Finally, the reduction of the Gulf Stream impact on UK should also be considered.
Mundesley Methodist Church	"Benefits of enhancing our tourism potential far outweigh any savings of maintenance costs"
Mundesley Parochial Church Council	After the last war Rev. J Gedge petitioned the King = revetment which has proved very effective.
NNDC Conservative and Independent Group	<p>Change from "Hold the Line" to "Managed Retreat" would be a total lack of social justice. The "ToR" must be widened to include the wider human issues and the study re-run.</p> <p>Other points mentioned: 1) geomorphologic study into gravel extraction offshore should be undertaken. 2) shift impact to social rather than scientific conclusions. 3) Single responsible agency must be given responsibility for coastal defence. 4) DEFRA's current points system renders sea side towns and villages lesser funding than inland flooding. 5) Discussions with Gt Yarmouth and Waveney DC to agree a common approach.</p>

Name	Summary of response
Norfolk Coast Partnership	Well written plan in accessible language, succinct and well supported by information. Support the plan in general, realistic and based on sound thinking. There are serious implications which must be addressed in the light of the development of a naturally functioning coastline. Some reservations: means of managing the implications are not in the plan and while this is not the remit of the plan addressing this would help the acceptance of the plan by those directly affected. Also low level of involvement by representatives from coastal communities. And some reservations about the over-emphasis on economic justification throughout the plan. Particular comments on individual aspects of the plan follow - what look like some useful points here.
Norfolk Green Party	This group see the impact of offshore dredging as "fundamental" to the SMP debate. It is "the fundamental cause of the rapidly escalating erosion". The SMP is "myopic" and exploitative of communities and the environment and the lack of compensation makes the policy "indiscriminate, unethical and socially unacceptable". The \impact on the natural habitat as rivers become salinated and agricultural land is lost. The loss of rich historical and cultural heritage is to be regretted too. Party proposes: a) moratorium on the granting of new marine aggregate extraction licences. b) secure key sand and gravel habitats listed as protected under the EU Habitats Directive 92/43 c) Promote and establish in the UK a marine Economic Zone (200 miles) of Marine Reserves where no "extractive activity" will be permitted.
Norfolk Landscape Archaeology	This group look for the provision of funding to ensure excavation of sites threatened by the proposals of the SMP
Norfolk Wildlife Trust	"We support the view that in order for the plan to work it is important to ensure that there is a continued supply of sediment arising from the soft cliff areas of the plan". In particular, the Eccles to Winterton Road section where they support the hold the line that will move in the longer term to managed re-alignment. The need for research is supported.

Name	Summary of response
North Norfolk Fishermen's Society	Each community could have made a significant contribution to the study. Would like to see other alternatives and scenarios more fully explored. Reflects on the difficulty of launching boats in the different locations along the coast and the impact on Norfolk's fishing industry.
North Sea Action Group	Draft SMP is based on assumptive predictions rather than established findings and factual historical data. The valuable information supplied by fishermen and those that have a practical understanding of coastal processes has been ignored and sidelined. Decisions such as those projected by the document affect the welfare and livelihood of an entire region and need to be based upon realistic data and a totality of well founded factual data without the exclusion of facts that could prove uncomfortable to the government. Studies of a like nature to those that the SMP is based on were carried out in 1992 by the same consultants, Halcrow, who produced erosion line predictions covering the following sixty years. Many of these lines produced were crossed with 12 years, i.e. five times that rate predicted, so producing a lack of confidence in what can only be seen as vague assumptions. This inaccuracy was because the Halcrow Report did not allow for the impact of Offshore Aggregate Dredging. When that factor enters the equation, the apparent anomaly becomes fully explainable. The new SMP must consider this major cause if it is to have any credence. Eleven specific responses covering offshore dredging; sediment budgets; income from dredging; compensation; underfunding; historical/cultural heritage; unfairness/unjust.
Overstrand Bowls Club	From the view point of "absence of local consultation" the Bowls Club objects to the plan and notes that the bowling green is part of an attractive sporting complex on Harbord Road.
Potter Heigham's Residents Association	Lack of evidence that the "hold the line" between Winterton and Eccles is the current policy. Would like to see more public meetings.
Royal Cromer Golf Club	The golf course is an historic one of very high standard. Defences must be maintained to protect property, local community and the golf course in its present form.

Name	Summary of response
RSPB, Eastern England Regional Office	Impact on sites that have been designated for their importance to wildlife (list follows in submission). Overall work towards a sustainable coastline will continue to provide important habitats for wildlife. Eccles to Winterton - RSPB supports the hold the line policy "Continued beach recharge.....should enable the habitat for little terns to remain, despite the ongoing erosion. For the next 50 years, the RSPB feels that wildlife losses that are likely to occur need to be examined much more closely. RSPB recognises the difficulty of establishing re-created habitats and supports conservation in-situ. However if realignment over designated habitats is inevitable compensatory habitats must be provided in advance of the loss.

Name	Summary of response
The Broads Society	<p>Primary concern is to "ensure that the north-east corner of the Broads region...is not flooded as a result of a breach in the dune defences south of Cart Gap." Welcome the length of coast dealt with by the SMP and the strategic approach. Also the SMP will help draw attention to "Coastal squeeze" attributable to climate change which will "make it physically impossible to maintain the coast of East Anglia on its present alignment." However the plan lacks detail about the sociological implications and the authors do not appear "there will be scores of properties whose value will be drastically curtailed." Dismayed at the failure to address this issue with regard to compensation - in particular those to the north of Cart Gap and doubt the reason for this - to provide sediment to strengthen the protection for the Broads - will follow. Surprised that the DEFRA points system is based on purely financial considerations and takes no account of the environmental importance of the sites protected from the sea. This has led to difficulties for the EA to secure funds for the on-going maintenance of defences between Cart Gap and Winterton. From this the Society is disappointed that the strategic approach for planning of which the SMP is part is not reflected in a single organisation to carry out such work. Also the Society comments on the difficulty of predicting the rate of coastal squeeze and sites the Coastal Habitat Management Plan assumptions which (appear) to differ from the SMP. In regard to the section Unit 3b, they note the wording of the SMP because this is the area which is the main line of defence to the Broads. They welcome the intention to maintain the line here but regret the beach feeding funds will not be available until 2007. This leads on to a general "unhappiness" with the way DEFRA distribute funds. They also note that the tombola have caused accretion to such an extent that sediment arriving from the north is being deflected seawards. It is not known if this is "lost" to the system and more research is necessary. The SMP bandings of the set back policy have contributed to the "blight" on property. Finally they caution against the enthusiasm of the conservationists because while the habitats created would be biodiverse there would be loss of recreational value of the broads.</p>

Name	Summary of response
The Church of England Parishes of Bacton, Happisburgh, Hempstead et al	After consultation with a number of Parishes, the Churchwardens and PCC of Happisburgh The Rev'd offers the following: This first revision of the 1996 SMP falls short of this objective to define in general terms the risk to people etc. it is itself already in need of revision. Inadequate to sum up the Parish Church as a heritage feature and of community value is wholly inadequate. The church should be uprated from G3 to G2 and from medium to high in significance. Prefer Managed Realignment to allow time to explore ways to protect this valuable site. Impossible to compensate for the loss of a site associated for over 600 years with the worship of God, so further work needs to be done as a matter of urgency.
The Inland Waterway Amenity Advisory Council	The Viscountess Knollys OBE DL, Chairman IWAAC. Supports the submission of the Broads Authority
The Lutyens Trust	Highlights the loss to the cultural heritage if the plan is accepted by the loss of Lutyens buildings.
The Society for the Protection of Ancient Buildings	"The society fully supports the objective of establishing an environmentally and economically viable long-term strategy for managing this area of the Norfolk/Suffolk coastline". But concerned about the blanket strategy without consideration for the historic environment especially regarding satisfactory evidence for long-term protection of historic buildings. Endorse the comments of English Heritage.
The Victorian Society	A statutory amenity society. Disappointed that they were not furnished with a note of the buildings that will be lost. Brief history of areas growth in popularity. Looking for detailed study on the buildings that would be lost.
Tony Wright, Labour Party Candidate	Tony Wright draws attention to the detail of the adjournment debate held by Norman Lamb in the House of Commons on 08/03/05 and asks all views expressed in that debate be fully weighed in consultation on the SMP. He is also looking for a single agency approach to coastal defence, compensation to those affected and agrees with a hold the line policy. Finally, he is sceptical about the evidence regarding offshore dredging.

Name	Summary of response
VOICE - Villagers Organisation Interested in Coastal Erosion	Managed retreat is unacceptable and hold the line must be clearly defined and published. Managed retreat is only acceptable if the extent of retreat is defined and any loss of property, livelihood or damage to the SSSI is fully compensated. Create a single authority to manage the shoreline. Give more consideration to the people in the area. Stop dredging. Reject plan.

APPENDIX 4**List of Local Government and non-Governmental Agencies responding**

Name	Summary of response
Broads Authority	The Authority supports the general policies for the Eccles to Great Yarmouth stretch of the coast. It advocates holding the line for the next 50 years to provide time to improve current knowledge of coastal processes. Additionally, it has major concerns about: 1) no financial mechanism to address loss of assets; 2) Defending Eccles to Great Yarmouth needs to be evidenced with an allocation of funds; 3) The Authority seeks reassurance that further research to better inform long term options is agreed and commissioned as soon as possible; 4) The issue of dredging undermines support for more sustainable solutions and further work is necessary and to communicate such evidence to stakeholders. Finally, the BA is keen to work closely with the EA and English Nature to raise long-term strategic and funding issues with relevant parts of government.
English Heritage, East of England Region	Lack of historic environmental consultant to the SMP - the possible provider quoted in the SMP says he did not advice. Secondly concerns about the localised problems at Cromer (Pier) and Great Yarmouth. Also, review the values used in cost benefit in areas of managed realignment or no active intervention. Beyond this the loss of the churchyards, scientific information and concerns of families whose members remains are interred. More work also needed to develop Conservation Area Appraisals to evaluate the heritage significance of vulnerable settlements. English Heritage also looking for mitigation of significant archaeological losses and take issue with individual sites rather is looking for a strategic landscape based approach.
English Nature, Norfolk Team	English Nature considers that the SMP "takes proper account of the economic, technical and environmental drivers" and is based on a sound understanding of coastal processes. If implemented EN consider that it would deliver a more naturally functioning sustainable coastline. A significant commentary follows in EN's submission.

Name	Summary of response
Environment Agency	<p>The Plan is consistent with our current sea defence strategy for the frontage from Happisburgh to Winterton. In the short to medium term, we can justify a policy of “hold the line”, subject to available funds. In the long term, 50 to 100 years, the future is less clear. More work needs to be carried out to fully understand the implications to people, their communities, the natural environment and the associated costs of any of the future policies outlined in the plan.</p> <p>The draft Shoreline Management Plan is based on a sound scientific understanding of the coastal processes operating within the sub-cell and the impacts of those processes on this coastline. We maintain that the restoration of dynamic coastal processes is an important component of sustainable shoreline management, delivering the most appropriate and practical defence options in the long term.</p> <p>Using all of the current research and best available data, through the shoreline management plan process, an attempt has been made to understand how the implications of the policies in each policy unit will impact on neighbouring policy units.</p> <p>This draft Shoreline Management Plan has raised important and complicated issues for communities and policy makers on a local and national scale. These issues are in no way unique to this section of coast and will require further debate at a national level. The outcomes of this may well be reflected in the next revision of the document in the next 5 to 10 years. A Shoreline Management Plan is a working document that must react to changes in our knowledge and in Central Government policy.</p> <p>As a partner in the production of this document, the Environment Agency supports the policies within the draft Shoreline Management Plan.</p>

Name	Summary of response
Great Yarmouth BC, Corporate Director (Environment & Economy), Deputy Chief Executive	Accept integrity of technical analysis of the coastal processes with the exception of impact of offshore dredging. Cannot accept the application of this analysis to the SMP i.e. the principle of MR in absence of consideration of human, social, economic and environmental consequences. Total lack of social justice in policy change from hold the line to managed retreat. Action needed: independent analysis of the impact of dredging, professional cost analysis of what is at risk if the plan were implemented, comparison with the cost of appropriate defence strategies, development of a compensation regime. Wants application of draft SMP suspended pending (1) outcome of various studies and (2) suitable measures to address those locations at immediate risk of erosion.
Norfolk County Council. Environment Manager, Department of Planning and Transportation	Following consultation with political group leaders and relevant cabinet members: creating a more sustainable coastline is welcomed, but implications not drawn out in the plan. Important reservations: must be a clear programme and time frames for decision making and resources identified; the plan illustrates the need for a major review of social, economic and environmental costs of managed retreat; Plan would be stronger if included a clear rationale for its position on offshore dredging; Eccles to Winterton policy has clear impact on the Broads and Government reassurance needed that sufficient funds will be available to defend this area; Policy unit implications do not include plans to mitigate against the negative impacts of the preferred plan.
The National Trust	Pleased to see the first revision of the "almost anonymous" 1996 SMP. Proposals for Kelling Hard to Sheringham are consistent with the Trust's Coastal Policy. Eccles to Winterton Beach Road the Trust preferred plan is for hold the line but doubts the financial support for this over the lifetime of the proposed SMP The Trust identify 5 factors that illustrate more information is required before deviating from the hold the line: 1) economic case 2) impact of hold the line on the coasts to north and south 3) ability of the held shoreline to form a natural beach 4) greater understanding of natural habitat cost benefit 5) ability to mitigate displacement and losses.

APPENDIX 5

Proformas

Proforma 2

Name.....

Address.....

.....

Date:.....

Terry Oakes Associates Ltd.
PO Box 186
LOWESTOFT
NR33 0WY

Dear Sirs

I ~~totally~~ reject the proposed *Kelling to Lowestoft Ness Draft Shoreline Management Plan 2004* for the following reasons.

Firstly on the grounds of a lack of social justice in that the plan is unworkable unless compensation for property or land lost to the sea is included. Secondly to allow swathes of this county to disappear means consigning too much cultural heritage to oblivion.

I firmly believe there are other ways of tackling the problem.

Yours faithfully

Signature.....

Further comments:

Proforma 3+ Page 1

Subcell 3b - Draft Shoreline
Management Plan (SMP) Review
2004/05

The ultimate goal of this Study is to *reduce* the risk to people and to the developed and natural environment from flooding and coastal erosion. To achieve this, the management objectives for the shoreline will be developed by taking into account the views of the coastal stakeholders.

Your views and comments will play an important part in the development of the SMP for the Kelling to Lowestoft shoreline.

The partners involved in the production of the SMP have appointed Terry Oakes Associates Ltd. to manage the consultation process. We would be grateful if you would take the time to fill out this comment form and return it to the address below by **31st March 2005**. If necessary, please continue on a separate sheet. An electronic version of this form can be found at www.acag.org.uk and can be submitted by email at the address below.

Terry Oakes Associates Ltd.
PO BOX 186
Lowestoft
NR33 0WY

Email: smp3b@terryoakes.com

Contact Details - Comments received may be incorporated into the SMP although personal details will not be published but may be held on file

1 - Name (and organisation)

2 - Contact details (address, telephone number, email)

Comments on the preferred plan

3 - Are any of the preferred policies presented in the SMP acceptable?

No. These proposals are totally unacceptable. I want to see a new plan that will help the marram dunes hold the present line, supported by offshore reefs, where appropriate.

Proforma 3+ Page 2

4 - Are any of the preferred policies presented in the SMP unacceptable and, if so, why?
What can be done to make policies acceptable?

This is a completely unacceptable plan. I cannot support something that will lead to the loss of so many villages and the loss of so much valuable fresh-water habitat, with the very real threat to the rest of the Norfolk Broads.

5 - Do you have any further comments to add?

**Yes. Only recently we heard about 'global dimming'. This has the opposite effect to global warming! So how can the sea level be predicted for 100 years in the future, as the SMP attempts to do? Even if this country manages to control emissions, what about the developing nations and the USA?
If cost is an issue, allow planning consent for a row of wind-powered electric generators, one on each of the proposed coastal reefs, so long as they pay for the reef construction, in the same way as supermarkets pay for road improvements.
As in Holland offshore banks should not be dredged. To prevent this, each county should have big gravel pits, which can then be used for the much-needed burial of rubbish.**

Thank you for taking the time to participate in the SMP consultation program. Please feel free to attach any supporting information to this form.

Proforma 4

Name.....

Address.....
.....
.....

Date.....

Terry Oakes Associates Ltd.,
PO Box 186,
Lowestoft,
NR33 0WY

Dear Sirs,

I am opposed to the draft **Kelling to Lowestoft Ness Shoreline Management Plan 2004** for the following reasons:

1. The principle of "managed realignment" is unacceptable without considering the human, social and economic consequences for our communities.
2. There is no justice in a fundamental change of policy from "hold the line" to "retreat".
3. Any realignment would have a most damaging effect on one of the most important lowland wetland sites in Britain, including a Ramsar site. Potter Heigham as a whole would be badly affected.
4. A compensation scheme is essential in any proposal, to avoid blight (already beginning) and to maintain confidence in our communities. The cost of defending the coast must be compared against the costs of compensation.
5. The plan is based on unreliable short-term research and, moreover, takes no account of the effects of offshore dredging.

The plan should be rejected.

Yours faithfully,

Signed.....

Proforma 6

Terry Oakes Associates Ltd
PO BOX 186
Lowestoft
NR33 0WY

Date: _____

An objection to the Shoreline Management Plan (Kelling to Lowestoft) from:

Name:	
Company / Organisation:	
Address:	
Postcode:	
Telephone:	
Email:	

Dear Sirs

I totally reject the Shoreline Management Plan. I have a particular interest in policy unit 3b13 - Eccles to Winterton Beach Road. I am a visitor to this area.

I strongly object to the loss of the rural landscape, Norfolk Broads and wildlife.

I find it unacceptable that there is no compensation proposed for loss of homes, property and business.

Signed

Proforma 7

Terry Oakes Associates Ltd
PO BOX 186
Lowestoft
NR33 0WY

March 2005

Dear Sirs

I strongly object to the Kelling to Lowestoft Draft Shoreline Management Plan 2004 as it will destroy our community, my home and my way of life. This plan proposes to abandon us to the sea. Why should we not continue to enjoy the coastal protection put in place after the tragedy of the 1953 floods?

Hundreds of millions of pounds are spent on river flooding defences. Homes flooded by river water can be repaired. If our coastal defences are abandoned, our homes will go for good. This is not justice.

Yours faithfully

B6.2 RESPONSE TO CONSULTATION REPORT

**KELLING TO LOWESTOFT NESS
SHORELINE MANAGEMENT PLAN**

RESPONSE TO CONSULTATION

December 2005

1 Introduction

1.1 THE ROLE OF THE SHORELINE MANAGEMENT PLAN

As part of the strategy for flood and coastal defence, Defra requires high-level documents, known as Shoreline Management Plans (SMPs), to be produced for the entire coastline of England and Wales. These high-level documents provide a large-scale assessment of the risks associated with coastal evolution and present a policy framework to address these risks to people and developed, historic and natural environment in a sustainable manner. In order to keep abreast with the latest research and developments in understanding, together with changes in legislation and policy, these documents must be reviewed on a regular basis.

Rather than focusing on short-term, reactive responses to coastal issues, the SMP works towards a long-term sustainable vision of coastal management and therefore have to look at large-scale, potentially radical solutions, recognising that it is not always realistic to simply continue to commit to unsustainable defences indefinitely. The SMP sets policy on how to implement future coastal management and identify how future management will affect existing communities, land-use and the natural and historic environment. In recognition of the fact that future management may require changes in policies other than those associated with coastal defence management, e.g. planning, and future changes in legislation, politics and social attitudes, the SMP provides a timeline of policy change, broadly corresponding to time periods of 0 to 20 years, 20 to 50 years and 50 to 100 years.

The SMP is a non-statutory policy document for coastal defence planning and although it is recognised that changes in policy have far-reaching impacts, the SMP can **not** set policy for anything other than coastal defence management and are unable to provide solutions to such concerns as lack of compensation. It can, however, raise the profile of public concerns in the face of future coastal change and its management.

1.2 KELLING TO LOWESTOFT SHORELINE MANAGEMENT PLAN

The coastline covered by this Plan has a rich diversity in its physical form, human usage and natural environment: including cliffs of both habitat and geological interest and low-lying plains fronted by dunes and beaches, characterised by a number of towns and villages along the coastal fringe interspersed by extensive areas of agricultural land. This combination of assets creates a coastline of great value, with a tourism economy of regional importance. It is, however, a highly dynamic coastline, with soft, easily eroded cliffs, interspersed with low-lying plains.

Over the past centuries, this coastline has been retreating, driven by sea-level rise and dropping land levels, with the documented loss of communities along the coast forming part of its rich history. Coastal flooding has also been a common occurrence in the past; prior to the major floods of 1953 there had been numerous breaches through the dunes between Eccles and Winterton.

Under current sea level rise predictions, this retreat and fall in beach levels is set to continue, placing increasing pressure on existing defences and undefended areas. This makes decisions on future

management of the coast extremely difficult as the sustainability of such defences is under question. The development of future policies for this coastline is therefore a complex task, with conflicts between the desire to protect existing assets, conservation of the natural and historic environment, and the future costs of defending the coastline whilst addressing the need for a balanced sustainability.

The policies that comprise this Plan have been defined through the development and review of shoreline management objectives, representing both the immediate and longer-term requirements of stakeholders, for all aspects of the coastal environment. There has been involvement of stakeholder representatives at key decisions points during the SMP process.

It has been recognised that many of the policy changes proposed will have a significant impact on existing communities, however it is the role of the SMP to set realistic policies that can be achieved, rather than promising actions that are unlikely to be carried out in the future. The present-day policies developed for this SMP provide a high degree of compliance with objectives to protect existing communities against flooding and erosion. The long-term Plan promotes greater sustainability of the shoreline and one more in keeping with the natural character of this coast.

2 The Consultation Process

The draft Kelling to Lowestoft Ness Shoreline Management Plan was issued as a document for consultation on 15 December 2004. This document formed the first revision of the original SMP, which was completed in 1996. Development of this revision of the SMP was led by a group including technical officers and representatives from North Norfolk District Council, Great Yarmouth Borough Council, Waveney District Council, the Environment Agency, English Nature, Defra and Great Yarmouth Port Authority. This document forms the response of this group (termed the Client Steering Group (CSG)) to comments received during the public consultation.

The consultation document offered local residents, businesses, key organisations and other interested bodies the opportunity to comment on the proposals for the long-term management of the Kelling to Sheringham coastline. In support of the document a series of public exhibitions were held, where the public had the opportunity to discuss the proposals with officers of the local authorities and the Environment Agency. In addition, a series of presentations was given to a number of organisations including Parish Council representatives and local businesses.

The consultation period ran from December 2004 to April 2005 and all members of the public were invited to provide written responses, either via an on-line form or through email and letters. Over 2,400 responses were received from residents, businesses, Parish Councils and other organisations, together with three petitions.

Terry Oakes Associates Ltd were appointed to manage the consultation process, ensuring that each response was recorded and questions answered as promptly as possible. Following detailed analysis of the responses, a consultation report was produced in July 2005. This highlighted 12 key 'strands' (or themes) of comments raised and summarised responses relating to these strands. The report identified the most commonly voiced concerns related to 'compensation', 'social justice' and 'heritage'.

This report has been produced to specifically answer those concerns and comments raised through the consultation process and focuses on the twelve strands identified.

The final section addresses the next stages in the implementation of the SMP.

3 Response to consultation

For each strand identified, the summary of responses received from the consultation has been reproduced from the Consultation Report. A response from the Client Steering Group (CSG) is provided, addressing the key points raised.

3.1 COASTAL PROCESSES

3.1.1 *Summary of consultation responses*

“Coastal processes includes sediment characteristics and transport; long-term processes; how the coast responds to tides and waves; and beaches. The current experience at Happisburgh where the cliffs have eroded at a far faster rate than forecast is often quoted as a reason to question long-term predictions for erosion in the plan. Consultees state that the erosion predicted to take place over a 20-year period by the 1992 Happisburgh coastal strategy has taken place in under ten years. This, in turn, has led to some consultees challenging the predictions for coastal erosion and sediment transport along the rest of the frontage. Some suggest that more research is needed before accurate predictions can be made and policies established. Others challenge the assertion that sediment transport is in a southerly direction. Consultees seek a range of erosion rates and assurances that the remaining defences will not be outflanked. Some respondents believe that more account should have been taken of local opinions about coastal processes rather than placing too much reliance on scientific analysis. Within this strand we have also considered comments about the past and proposed management of coastal defence structures. The notion of a continuous supply of sediment along the plan frontage from north to south is queried in some responses where the effect of the “hold the line” units is questioned – will these not interrupt this flux and, if not, why can the same protective techniques not be applied in front of all threatened towns and villages.”

3.1.2 *CSG Response*

This Strand addresses two issues: (1) accuracy of coastal process understanding and (2) proposed management of coastal defence structures.

Coastal process understanding

As identified by the respondents, in all studies of the dynamic coast there is always going to be a degree of uncertainty, particularly when predicting future change. Our understanding of coastal systems has, however, improved significantly over the last decade through advances in data collection and historic data analysis and better integration of sciences and engineering. This coastline, in particular, has benefited from being one of the most-studied stretches of shoreline, with considerable research funded by the government. One such piece of research has been the Southern North Sea Sediment Transport Study (HR Wallingford, 2002), an independent study commissioned by a client group of local authorities, which provides a detailed understanding of sediment transport along the eastern coastline of England. This study and other studies, have recognised that transport can be significant in both northward and southward directions at any one time, but concluded that drift along the majority of this shoreline is predominately south. Local variations do exist and it is recognised that

temporal changes may occur in some locations due to the ever changing configuration of the offshore banks, but overall feed of sediment will be to beaches to the south.

Through the public consultation, the accuracy of erosion rates presented has also been questioned; we can assure respondents that the rates presented by this study have been determined through assessment of data available, including historical mapping, which dates back over 100 years, and the more recent measurements of change available through the Environment Agency beach profiles. In addition, a review has been conducted of available reports that have also attempted to predict future shoreline change. However, in recognition of the uncertainty associated with shoreline change, indicative erosion *zones*, rather than simply lines, have been presented on the maps. There seems to have been some confusion that this is what is represented on the maps. The base maps are produced by Ordnance Survey and some of the background detail may be out-of-date, but where discrepancies with the current shoreline position have been identified, the start position of first Indicative Erosion Band has been corrected accordingly.

Consultees have referred to inaccurate predictions of erosion by the 1992 Happisburgh Coastal Strategy as a reason to question rates now being predicted in 2005, but that is a good example of our advanced knowledge in the 13 years since those predictions were made. We are now much more aware of the 'unreleased spring' effect on the shoreline because of defences being in place for several years. As a defence fails and the shoreline becomes exposed to erosion then it will often rapidly recede back to the position it would have been at had defences not been in place, rather than simply retreat at the pre-defence rate. After this, rates should settle down, i.e. the rates seen in the first 10 years would not be expected to continue during the next 10. We now also have monitoring data collected for the past 15 years along the entire coast and have better information on contemporary rates of change to compare with the historic information to make better informed predictions than was possible in 1992.

Some comments have been received regarding the role of underground springs in causing cliff erosion. This is correct, but groundwater is only part of the mechanism along this coastline, as the slumped material following a fail is then removed by wave action, thus the cliffs cannot become stable.

Some respondents suggested the need for additional research before the SMP is released, however improvement of understanding is a continual process and relies on the continued collection of good data. In recognition of the fact that as we obtain longer data sets, through such programs as the EA beach profiling and also the collation of photographic evidence of change by individuals, our knowledge of the coastal response will continue to improve. In the future, there may also be changes in the predictions of climate change. However, policy setting cannot wait indefinitely and must be based on the best knowledge at time of development, which along this much-researched coastline is at a very good level.

The policies developed for this SMP have taken account of available studies, many of which have involved the input of local knowledge. Through development of the SMP there has also been consultation with people who are very familiar with this coastline; therefore we have not simply relied on scientific analysis, although this has obviously played the major role. It should be noted that in all cases the preferred policies were reviewed with regard to both the maximum and minimum extremes of change. In no cases does this difference in rate alter the preferred policy presented.

Coastal defences

There has been a misconception regarding the lack of consideration of maintaining defences; as part of the SMP process, all options were initially considered at all locations against a number of 'key drivers', which had been determined through consultation with a number of key stakeholders (see Appendix F of the SMP). Although economics is one part of the decision, greater importance is placed on balancing other factors including the built environment, natural environment and heritage. When looking at these factors the SMP has to take account of existing planning initiatives, legislative requirements and treasury guidelines (which exist to ensure available funds are prioritised to provide best return on spend for the nation), otherwise the plan would be unrealistic.

There have also been questions raised over the proposed abandonment of defences, with arguments that defences have worked in the past. The future impact of the maintaining defences has been analysed in detail as part of the plan, and a key concept with regard to this is that with continued sea level and the lack of sediment feed through cliff erosion, continued protection would require significantly larger defences than exist today. In addition, it would become increasingly difficult to hold beaches in front of these defences, predominately due to deeper water at the shoreline (as the sea advances). There is therefore not only a significant economic cost, but also a cost to the environment, landscape and man's use of the coastal environment. By not facing this now, we would also be tying future generations into an unrealistic management approach. The plan has been developed using expertise and experience gained over several years to make appropriate assessments. One recommendation of the plan is that measures be put in place to manage risk and mitigate displacement and losses to help address any uncertainty associated with failure mechanisms, which may arise from the unpredictability of extreme event frequency.

A statement regarding the impact of the Great Yarmouth Outer Harbour is included in Appendix C of the SMP. Any other future developments along the coast would require their own impact assessment; the conclusions would then feed into future reviews of the SMP.

3.2 ECONOMICS**3.2.1 Summary of consultation responses**

"Comments on the perceived inadequacy of the economic appraisal process that compares the costs of defending the coastline with the benefits achieved from undertaking the defence works. Consultees refer to Appendix H3.1.1 which states "Losses and benefits have been calculated only upon the basis of residential and commercial property values. Other assets, such as utilities, highways, and intangibles, such as recreation, impacts upon the local economy and environment, have not been valued or included. Exclusion of these factors will robustly confirm economic viability, as these would provide added value." Consultees believe that inclusion of the items excluded from the appraisal could justify maintaining existing defences. Others question the accuracy of and method of determining the property valuations and the absence of the value of tourism to the area. Some consultees challenge the base information used in the analysis e.g. the classification of Overstrand as a residential area without considering its tourism importance and the economic activity associated with some of the buildings from which businesses are run. The way in which central Government allocates funds is also challenged. This is manifest in a number of aspects – the disproportionate allocation between East Anglia and the South coast, between inland areas subject

to river flooding and the coast and between coastal defence and other Government responsibilities such as overseas aid.”

3.2.2 CSG Response

The **primary** basis for appraisal of policies in the SMP is through the development and review of objectives, alongside a thorough understanding of coastal processes, **not** economic justification. The objectives relate to all aspects of the coastal environment, including property, recreation, infrastructure, heritage, nature conservation, etc. In this way, the selection of policy takes equal account of all relevant features in identifying the best solutions. It is therefore not correct to say that the policy decisions are based only on residential and commercial properties.

It is only after the preferred policy has been identified, through the objective achievement assessments, that the economic viability of that preferred approach is calculated. The economic assessment at policy level is necessarily ‘high level’ and intended only to provide a *broad* indication of the economic viability of the chosen option(s). In instances where the economic appraisal suggests the justification is not clear-cut (positively or negatively), the policy choice has been either revisited or the reasons why that policy remains valid have been clarified. As such, even where the economic appraisal has not confirmed the preferred policy it does not preclude that policy being promoted, further emphasising the point that the decisions are not economically driven. The key aim of the SMP is produce realistic policies, not ones that will be unsustainable in the future.

Whilst the economic appraisals do not attempt to provide a full economic justification, they are undertaken in full accordance with the procedures set out in Defra’s economic appraisal guidance (Flood and Coastal Defence Project Appraisal Guidance 3, FCDPAG3). This follows the Treasury ‘Green Book’, which provides the government’s guidance on economic appraisals. The Flood and Coast Defence guidance applied includes aspects such as:

- 100 year appraisal period
- Use of a 3.5% discount rate for future costs/benefits
- No inclusion of future inflation

Section 3.2.2 of the SMP document discusses many of the above points.

These broad assessments are not directly comparable to those calculated in previous studies, such as strategy studies, because:

- there are different timeframes: many strategies have looked at economics over only 50 years and use different discount factors to those now required by Treasury
- the area determined to be at risk: the SMP may have a modified assessment of the area that could be affected by erosion or flooding
- the preferred option differs: the SMP may be advocating a change from previous policy or management practice.
- the more detailed strategy assessment may have taken account of other benefits

For the purposes of such an appraisal, the use of average residential property prices for a village is entirely reasonable. Consideration of whether a policy is (or is not) clearly viable takes full account of

the fact that many of the less readily quantified benefits of coast defence (e.g. recreational use, etc) have not been included, i.e. the benefits value derived is recognised as an underestimate when compared to the cost estimates.

Property values have been derived from www.upmystreet.co.uk, which provides property price statistics by postcode. This database is updated every three months from the Land Registry, which supplies average prices (calculated by dividing total sales revenue for each type of property by number of units sold). These averages cover about 80% of all domestic property sales in England and Wales (see website for more details). Although local discrepancies may occur, this provides a good data set for the broad-scale assessment undertaken by the SMP. For non-residential properties, commercial values were obtained from the Focus database, provided by the Valuation Office.

A number of comments have been received regarding apportioning of government funds. The SMP, and all other shoreline management plans around England and Wales, are unable to affect this process but all, as explained above, have to work within the Treasury guidance. Development of this SMP has involved both locals and government representatives.

Issues relating to social justice are discussed in the relevant section below.

3.3 NATURAL ENVIRONMENT

3.3.1 Summary of consultation responses

“Objections to policies that may result in the flooding from the sea of the Broads and the subsequent loss of the freshwater areas and habitats. The consequent impact on the economy of the area from the loss of income from tourism, which supports the costs of managing the natural environment. Under this heading we have also considered comments made about the impact on the landscape and Areas of Outstanding Natural Beauty in particular.”

3.3.2 CSG Response

The plan includes a *long-term* vision for managed retreat of the frontage south of Happisburgh - north of Winterton. It is recognised that this concept requires significant research and therefore it is possible that this policy will be beyond the 100 years covered by this plan. However, it will eventually become unsustainable to hold the present line, and in itself could be damaging to other natural and human environments. The plan identifies three possible options for retreat, which require further investigation, which is beyond the detail of the SMP. With a decision on these options not required for some decades, there is time to conduct full and comprehensive studies into the implications of each of them to determine the most appropriate solution. These studies would need to look in more detail at potential impacts, covering a range of subjects, both environmental and socio-economic.

It is important to note, however, that development of this concept has involved input from the Broads Authority and other interested bodies and has the support of English Nature. The aim of the SMP is to promote sustainable long-term policies and to look for biodiversity opportunities, which a managed retreat option could provide (further to more research). The national policy on natural environments is to seek to conserve but accept natural processes and change, not to artificially preserve.

Comments have also been received regarding the landscape character of the area. Landscape is one of the key criteria considered in developing the policies and has involved inputs from an AONB representative. The long-term vision of this coast is one of a more-natural shoreline, with reduced unsightly defences, which should improve the landscape quality; the AONB promotes the conservation and enhancement of natural beauty, which include protecting flora, fauna and geological as well as landscape features.

It is, however, recognised that loss of some coastal villages, to which the AONB designation refers, will be detrimental to the landscape of this coast and this has been taken into account, together with all the other factors, in deriving policy.

It also recommended within the Plan that where the coastline is allowed to retreat, that this is a managed process to allow removal of houses and infrastructure, which would otherwise be unsightly and dangerous.

3.4 BUILT ENVIRONMENT

3.4.1 Summary of consultation responses

“This covers the impact of the plan on the buildings, facilities and infrastructure in urban areas and villages. Consultees object to the predicted loss of a large number of houses, businesses, amenities, facilities and services. They believe that the quality of the built environment will reduce as it becomes uneconomic to maintain and improve buildings and infrastructure with only a short-term future. It is argued that the loss, through coastal erosion, of community assets, such as schools, shops, post offices, churches and village halls, will lead to the gradual decay in the quality of life and the inevitable “death” of the community. A number of respondents have been keen to point out the far-reaching effect of instances where the coastal road network is severed. They also comment on the potential fate of coastal outfalls including those from the sewage system serving the local communities.”

3.4.2 CSG Response

Erosion of this coastline is not a new phenomenon and whilst there exists the technical ability to halt erosion of the cliffline/ shoreline, through significant engineering works, this would not prevent the continued erosion of the beach and shoreface. Continued defence would also have significant impacts on coastal processes and the natural environment and would incur higher and higher costs (as clearly explained within the SMP). There would also be a loss of fronting beaches in the longer term, which would change the character of this coastline, through creation of a series of village islands/ headlands. Through detailed assessment and discussion, it has therefore been recognised that continuing to ‘hold’ the existing defence line is not appropriate, in the long-term, for much of this frontage.

This policy has obvious implications with regard to the need to relocate communities away from ‘at risk’ areas and National Government will shortly be considering this issue. The ‘Making Space for Water’ government response (24 March 05) indicates that work will be undertaken to consider a ‘wider portfolio of tools’ to help communities adapt to the changing coast (this will report in 2006/07). Further response on ‘blight’ and ‘social justice’ issues are included in the relevant sections below.

Some infrastructure require a coastal location (e.g. pumping stations, outfalls, etc) and will be at future risk of erosion or flooding. However, the organisations who manage these facilities recognise that and, on a dynamic coast such as this, must make allowances for the future relocation or reconstruction of such assets. The SMP policy therefore needs to provide realistic advice to enable future management and mitigation of risk.

3.5 HERITAGE

3.5.1 Summary of consultation responses

“The impact on the heritage and history of the area, which would be lost forever if defences are removed and/or not maintained in place. Particular reference is made to the potential loss of unique historic buildings such as 17th and 18th Century houses in Norfolk, the Lutyens buildings in Overstrand and the churches, including those at Mundesley, Trimingham and Happisburgh, which are under some threat. The heritage value of the buildings and landscape of the Broads is often mentioned. “

3.5.2 CSG Response

The heritage value of this coastline has been fully recognised within the SMP and an English Heritage representative has been consulted at key decision points during its development. The Sites and Monuments Records (SMRs) were used as the primary source of information on the local historic environment, with data provided by Norfolk and Suffolk County Archaeologists. The comments received regarding missing information have been checked and amendments made where necessary.

Only those features recorded as monuments or listed buildings were considered within the SMP, although it is recognised that the implementation of a policy (at either strategy or scheme stage) would also need to consider find sites. It is fully recognised that the absence of recorded features does not necessarily mean that no features are present and that the concept of ‘archaeological potential’ is therefore important, particularly in this area where coastal erosion may reveal new sites. This is not, however, an aspect that can be thoroughly explored at SMP level, but will require further investigation at either strategy or scheme level.

Although loss of historical buildings is not desirable, the dynamic nature of the coastal environment must be recognised - loss of historic buildings along this coastline is not a new phenomenon and there are many examples of former churches and lighthouses now lost to the sea. The defence of this coast predominately dates from only the early 20th century and so the process of erosion could be considered to form an important aspect of the area’s history and heritage.

There have been examples, in the past, of buildings being relocated to avoid loss to the sea and today there are more technologies available for relocation of significant buildings. However, it would be a matter for the owners of those buildings to decide whether they would wish to take such steps.

Many of those historical features that would be lost as a result of the Plan are associated with wartime structures, which are located at the cliff edge. Some examples of these have already been lost, but where the policy has identified the need to manage retreat, there may be opportunity for mitigation schemes or recording to be implemented and funded by interested organisations.

The major area of potential heritage loss would be the Happisburgh to Eccles frontage, where there are a large number of high importance monument sites as well as listed buildings and a Scheduled Ancient Monument. However, as clearly stated within the Plan, the implementation of a managed retreat strategy requires a number of studies and one of these may include the consideration of mitigation schemes that could be implemented.

Within the economic review of policies, losses and benefits have been calculated only on the basis of residential and commercial property values. Other factors, such as heritage or environment, have not been valued or included. Exclusion of these factors will robustly confirm economic viability, as these would provide added value. In conjunction it should be noted that policies have been led by objectives and processes and that the SMP economic appraisal was not to establish the economic justification for a scheme (as defined by FCDPAG3), simply to make a broad assessment of the economic robustness of the preferred policies.

3.6 BLIGHT

3.6.1 Summary of consultation responses

“The impact of the SMP policies on property values where there is a proposed change of existing policy from “hold the line” to “managed realignment” and/or “do nothing”. There is a concern that the immediate effect of the Plan will be to blight coastal areas of the Norfolk coast. Within the zone identified as being under some threat during the lifetime of the plan there is a fear that property values are being depressed leading to financial loss by owners. Consultees quote specific instances when property sales fell through, following the publication of the draft plan. They also report that some postal areas are having difficulties in arranging insurance and mortgages for their properties.”

3.6.2 CSG Response

The introduction to the SMP identifies that its aim is to promote shoreline management policies “for a coastline into the 22nd century that achieve long-term objectives without committing to unsustainable defence”. In so doing, the SMP is looking forward at timescales that have not previously been appraised in coastal defence planning, and hence making (and presenting) projections of shoreline change further into the future than, for example, the previous SMP.

The SMP has employed an improved understanding of coastal processes and coastal change (see 1.3.1) to better estimate the likely future evolution of the shoreline and the potential implications of coastal defence activity. This improved understanding, in tandem with the longer-term view, has inevitably resulted in the generation of different, more informed predictions of future evolution from those previously published. This improved understanding has also been the basis for many of the changes in long-term management policy.

Any property blight resulting is not consequent of any ‘change of mind’ or ‘poor advice’ on the part of local or national government, but the result of these improved appraisals clarifying the reality of the coastal flooding and erosion risks along the Norfolk and Suffolk coastline. Whilst the Client Steering Group has every sympathy with those who might consider that they suffer because of this understanding of the risks being publicly available, the group members would be negligent in their duties if such information were not made available, and investments, etc. made upon out-of-

date/incorrect information. A SMP is a working document that must react to changes in our knowledge/ understanding and in Central Government policy.

It is also important to note that the SMP has also identified the need for risk management, with many of the changes to existing policy identified for the medium rather than the short-term.

3.7 DREDGING - EROSION

3.7.1 Summary of consultation responses

“Many people believe that offshore dredging for aggregate increases the rate of erosion at the coast. They remain to be convinced by the assurances of the dredging industry and Government experts that there is no link and suggest that dredging should cease until there is more certainty and a better understanding of the inter-relationship, if it exists. Consultees believe their arguments are supported by the comment in the first paragraph on page 10 of the Consultation Document, which suggests it is uncertain that there is such a link. Whatever interpretation is put on this remark, a number of respondents believe that the plan is dismissive of the potential effect of dredging. Consultees refer to practice in other countries, particularly The Netherlands, where they believe dredging close in-shore is not permitted. The statement in the plan that the effect of dredging is uncertain is challenged by the dredging industry, which points out that the current procedures ensure no adverse effect on the coast.”

3.7.2 CSG Response

There has been some confusion resulting from wording used in the draft SMP sent out for consultation, which stated, “*whether there are links between offshore dredging and coastal erosion is uncertain*”. This was intended to highlight the differences between frequently stated local opinion and the dredging industry, rather than call into question the scientific evidence that was also referred to in (Appendix C). This section of text has now been revised and states that studies conducted to assess the impact of licensed dredging indicate that it will not have a noticeable impact upon coastal evolution, and there is no evidence to the contrary

The SMP did not specifically undertake any additional investigations into impacts of offshore dredging, but instead drew upon the conclusions of the most recent research: the Southern North Sea Sediment Transport Study (HR Wallingford, 2002), an independent study commissioned by local authorities. This study concluded that extensive research has shown that there was no noticeable impact of licensed offshore dredging areas. It reported that recent studies carried out off Great Yarmouth have concluded that changes in bed levels in and around the dredging areas were not distinguishable from natural variations and that there has been no infilling of the dredged depression. The studies also concluded that the changes to waves and tidal currents have not affected even the seabed immediately adjacent to the licensed area. Further information can be found on the SNSSTS website (<http://www.sns2.org>).

Companies require consent from Government and a licence from the Crown Estate before they are allowed to extract marine aggregate from the UK Continental Shelf. Any dredging licence application within the UK requires both an Environmental Statement/ Assessment and a “Coastal Impact Study”, followed by consultation with appropriate bodies, before a licence can be granted. This ensures that

for each application the best available knowledge is used to assess potential impacts and to ensure that extraction does not cause unacceptable adverse impacts¹. The Environmental Statement needs to include an assessment of the physical impact of aggregate extraction on the hydrographic and seabed environments¹, and information should be provided on the implications for coastal erosion (through a Coastal Impact Study), in particular whether;

- the proposed dredging is far enough offshore for there to be no beach drawdown into the deepened area;
- the proposed dredging will interrupt the natural supply of materials to beaches through tides and currents;
- the likely effect on bars and banks which provide protection to the coast by absorbing wave energy, and the potential impact on local tidal patterns and currents which could lead to erosion;
- likely changes to the height of waves passing over dredged areas and the potential effect on the refraction of waves which could lead to significant changes in the wave pattern;
- the likely effects on the seabed of removing material. In particular the nature of the sediment to be left once dredging ceases, and the likely nature and scale of the resulting topography (e.g. ridges and furrows);
- implications for local water circulation resulting from the removal or creation of topographical features on the seabed;
- assessment of the impacts in relation to other active or proposed dredging operations in the area.

There is also significant research being carried out in the UK looking into the effects of marine sediment extraction. A number of these projects are currently funded through the marine component of Defra's Aggregates Levy Sustainability Fund (ALSF); the ALSF is funded from a tax placed on the extraction of primary aggregate in the UK.

Although government policies and the regulatory framework for marine aggregate extraction are developed at national, regional and local levels, they are also influenced by international issues², including regulation from the European Union. The International Council for the Exploration of the Seas (ICES) has had a long standing interest in the effects of dredging² and representatives from a number of countries, including the Netherlands (which is one of the largest extractors of aggregate, extracting almost twice as much as the UK), are members of a working group set up to examine the effects of extraction of marine sediments.

¹ Marine Mineral Guidance 1: extraction by dredging from the English seabed. Available from <http://www.odpm.gov.uk>

² Gubbay S (2005) A review of marine aggregate extraction in England and Wales, 1970-2005. Available from www.crownestate.co.uk.

In the Netherlands the landward limit for extraction of marine sediments is the established NAP (Dutch Ordnance Level/ Mean sea level) 20m depth contour, which is a simplification of the real NAP 20m depth contour. There are some exceptions to this, e.g. in access channels to harbours. Seaward of the established NAP 20m depth contour, extraction is allowed in principle³. In the UK there is no such restriction at present, but there are strict controls on where dredging can be carried out in UK waters, as discussed above, and the Government pursues a precautionary approach in the consideration of applications for marine minerals dredging. The Secretary of State will only grant permission for new areas for marine minerals extraction where he is satisfied that all environmental issues, including coastal impacts, have been satisfactorily resolved¹. Typically, licenced areas lie between five and 35km offshore at depths of 10 to 40m⁴ and conditions are commonly enforced as part of the licence, including regular environmental monitoring.

3.8 DREDGING – INCOME

3.8.1 Summary of consultation responses

"Consultees are aware that the Government receives income from the sale of marine dredged aggregate. They also believe that much of the marine dredged aggregate is exported to mainland Europe. Linking this to the general belief that dredging does increase problems at the coast, they demand that the income should be used to fund coastal defence schemes. There is also concern about the perceived conflicts of interest on the part of the organisations involved in the dredging/aggregate industry and coastal management."

3.8.2 CSG Response

The SMP has no influence over income raised through dredging activities around the UK. The Crown Estate generates money for the Treasury and therefore the taxpayer, from the dredging industry; approximately 30% of the aggregates dredged in the UK are exported to mainland Europe. Currently, Crown Estates receive around £14million per year⁵ from the dredging industry, with approximately £5million of that coming from the sale of marine aggregates dredged off the Norfolk/Suffolk licensed areas. The net income from The Crown Estate, after defraying costs of collection and management, is paid into the Exchequer and made part of general government revenues. These funds are then allocated as appropriate to cover all government services, which include healthcare, education, police, transport etc. To put the income raised from dredging into context, Defra's 2005-6 provision for public investment in management of flood and coastal risk in England is £570million⁶. There is also a tax placed on the extraction of primary aggregate in the UK; Defra's Aggregates Levy Sustainability Fund (ALSF), which funds research projects.

The material dredged is used for construction purposes, for fill, for land reclamation and for coast protection, particularly for soft coast defences such as beaches. (e.g. half a million tonnes per year is

³ ICES WGEXT Report (2005) Report of the Working Group on the Effects of Extraction of Marine Sediments on the Marine Ecosystem. www.ices.dk/reports/MHC/2005.

⁴ BMAPA (2000). Aggregates from the sea. <http://www.bmapa.org/public.htm>

⁵ Crown Estate Report (2005) Available from <http://www.thecrownestate.co.uk>.

⁶ Data from Defra's website: <http://www.defra.gov.uk/enviro/fcd/policy/funding.htm>

being used for maintenance of the Lincshore scheme between Mablethorpe and Skegness)⁴. Approximately 7% of marine aggregate was used in 2004 for beach replenishment projects in the UK³.

Comments were received regarding a perceived 'conflict of interest'. The Crown Estate's role is as a landowner, whilst the decision as to whether dredging is permitted is taken by Government and there are significant controls in place to regulate the extraction of marine aggregates (as discussed in Section 3.7). The consents and licensing system has also changed over the last 30 years to become more public and transparent, enabling other interest groups to become more involved, with greater opportunity for stakeholders to influence decisions. There are also plans to change the procedure in the future to separate the decision-making body and the permission to proceed².

3.9 COMPENSATION

3.9.1 Summary of consultation responses

"Comments concerning the lack of compensation to owners who can expect to lose their property from coastal erosion over the period of the plan, particularly when the proposed defence policy is to change with time from "hold the line" to "managed realignment" and/or "do nothing". A number of parallels are drawn between the situation with coastal property owners and those affected by road building schemes where, it is perceived, fair financial recompense is available. The argument is sometimes linked to the view that the affected owner has to withstand the financial loss to provide a benefit for the wider community i.e. in supplying sediment for down drift beaches. The compensation issue is also linked by some to the disruption and resettlement costs likely to be incurred by displaced families. There is reference to the effect on displaced businesses and people losing their jobs."

3.9.2 CSG Response

Since flood and coastal defence legislation in England and Wales is permissive, it does not confer a right to protection, except in very limited circumstances and similarly there is no provision for compensation to offset the disadvantage suffered by any landowners. The status of the SMP as a non-statutory policy document for coastal defence planning means that it is unable to provide solutions to such concerns as compensation. It can, however, raise the profile of public concerns in the face of future coastal change and its management.

There are circumstances where some compensation may be paid under current arrangement and these are clarified in Defra's guidance⁷. The 'Making Space for Water' government response (24 March 05) indicates that work will be undertaken to consider a 'wider portfolio of tools' to help communities adapt to the changing coast (this will report in 06/07). Until this reports there will be no other review of the current position.

The comparison with road building is not valid, as property loss due to erosion/flooding is a natural hazard, which the SMP recommends at many locations should not be prevented. Loss due to the

⁷ The current position on compensation is stated in Section 4 of the Defra Guidance Note on Managed Realignment: Land Purchase, Compensation and Payment for Alternative Beneficial Land Use:
<http://www.defra.gov.uk/enviro/fcd/policy/mrcomp/mrcomp.htm#3.4%20Financial>

construction of a road is an entirely different situation, where a proactive decision results in the requirement to remove property.

The suggestion that compensation should be paid to those who lose assets, due to flooding or erosion, may appear to provide a solution, but the costs of such a measure would be high (financial and lost opportunities) and must therefore be properly evaluated against other demands upon taxpayers' money. The budget allocated for flood and coastal defence management in England and Wales is a proportion of the full national budget. As such, if compensation were introduced, decisions would have to be taken as to whether it was provided rather than a defence scheme elsewhere (if taken from the existing flood/erosion budget), or rather than some other element of the national budget (e.g. education, health, police, etc). These are high-level decisions, which are beyond the scope of the SMP.

3.10 PEOPLE AND THEIR COMMUNITIES

3.10.1 Summary of consultation responses

"There is a belief that the plan takes little or no account of the adverse effects of the medium and long-term effects on people. People state that their health is suffering because of worry and concern about the proposed policies. Those who have moved to the area make the point that their properties represent a life's work that was expected to offer security in retirement and allow them to pass on an inheritance to their children. Elderly consultees make the point that their pension represents their only income and that it could not fund the purchase of another property. It is anticipated by consultees that blight will prevent people moving out of the area and discourage people from moving in. As a result, the average age of the population is likely to increase. This will threaten the survival of schools and other community facilities. We have also included in this strand the expressed views of people about the consultation process itself."

3.10.2 CSG Response

The role of the SMP is to set a *long-term* sustainable policy for managing the coast, through fully considering the advantages and disadvantages of alternative options in the light of a wide range of issues, such as coastal processes, landscape, nature conservation, community and recreation, together with more easily measurable benefits like agricultural outputs and property values.

As discussed earlier, whilst there exists the technical ability to prevent the erosion of this coastline in the future, the significant potential coastal process and environmental consequences, and high costs, of doing so (as are clearly set out in the SMP) makes this inappropriate and unsustainable. Keeping the sea at bay and maintaining flood defences is a never ending and expensive process and with sea level rise and other changes induced by climate change in prospect, the risks will increase in future. The SMP recognises that long term attempts to protect these developments would result in the loss of fronting beaches and ultimately the creation of a series of village islands/headlands along the coastline, entirely changing the character of the coast.

Although the appraisal process does not take account of the cost of relocating people or property, the SMP has recognised the significant implications of the policies proposed in the long-term. Given the implications of attempting to protect existing communities, there is a need to look at mechanisms

to relocate communities away from 'at risk' areas, rather than attempting to provide unsustainable defences. This is the only 'sustainable' way to manage the issues outlined in the consultation responses under this strand. This is not within the scope of the SMP, but national government will shortly be considering this issue. The 'Making Space for Water' government response (24 March 05) indicates that work will be undertaken to consider a 'wider portfolio of tools' to help communities adapt to the changing coast (this will report in 06/07). It is important to note that the SMP does not promote an immediate change in policy, but instead highlights the need for changes in the longer-term, recognising the need for measures to be in place for managing this change. Many of these mitigating measures will need to be implemented at a high-level.

A number of consultation respondents have expressed disappointment in the level of consultation and this has been duly noted by the CSG group. The role of consultation in the SMP process is considered extremely important and a four-level approach was adopted for the development of this SMP:

- Level 1: the Client Steering Group (CSG), which included officers from North Norfolk District Council (Lead Authority), Great Yarmouth Borough Council, Waveney District Council, Environment Agency, English Nature, Defra and Great Yarmouth Port Authority.
- Level 2: an Extended Steering Group (ESG), which included Elected Members and representatives from a range of local, regional and national interest groups: a full list is provided in [Appendix B](#) of the SMP.
- Level 3: additional stakeholders.
- Level 4: Public consultation.

The aim of the ESG was to act as a focal point for discussion and consultation, through development of the SMP, and members of the ESG were involved in a series of workshops throughout the SMP development and also consulted through written correspondence. Elected Members were also consulted at the Draft SMP Stage. It was anticipated that views of the public and interested bodies would have been represented by these groups.

3.11 HUMAN RIGHTS

3.11.1 Summary of consultation responses

"The policies are regarded as short sighted and badly constructed. People believe an arbitrary change in policy from defending a coastline to not defending the coastline an abuse of human rights insofar as it affects their "right" to live where they chose. People who have recently been given consent to develop new cliff-top properties object that they are now being told that their land is under threat of erosion. Others point out that they bought property on the understanding that defences would be maintained indefinitely. Many people believe there is a national obligation to provide protection to the community and their property and that they have a basic human right to live in peace and security. In some cases, they have reinforced this view by reference to the European Union legislation on Human Rights."

3.11.2 CSG Response

The flood and coastal defence operating authorities have permissive powers to undertake works to manage risk - there is no statutory obligation on them to do so and thus no statutory right to levels of protection⁸. Individuals and communities will have variable standards of defence according to geography, the operating authorities' different approach and priorities, and the varying ratio of benefits and costs from providing particular defences.

In the matter of flood and coastal defence, as in all others, due regard must be given to the Human Rights Act⁹. The Human Rights Act provides, amongst other things, for the right to peaceful enjoyment of possessions (Article 1 of Protocol 1), and the right to respect for private and family life (Article 8). Essentially, no one can be deprived of the unimpeded use of his or her land except in the public interest¹⁰. The SMP does not question the right of individuals to live where they chose, but those individuals must recognise that there is no obligation for the rest of society to protect that place of residence if it is located in an area of risk. The policy decisions presented in the SMP have been thoroughly appraised and are based upon best scientific knowledge and adhere to Defra policy guidance.

Those who have made property purchases/developments assuming that future protection was guaranteed are unfortunately misinformed. Whilst current policy at the time may have been for continued protection, there can never be a guarantee that funding will be available indefinitely or that the information upon which any decision is made will not be superseded in the future.

The SMP is far from being short-sighted and its aim has been to provide a long-term sustainable policy for management of the coast, looking forward 100 years and beyond. To help prevent misinformed decisions in the future it is important that the SMP presents realistic policies that can be fed into the planning processes so that in the future the government can discourage inappropriate development in areas at risk. Defra has set development control in areas at risk of flooding and coastal erosion as a High Level Target, and will be working with ODPM in reviewing Planning Policy Guidance notes PPG25 and PPG20.

Concerns of local residents are fully recognised and the SMP has highlighted the need for measures to be in place to make the proposed long-term policies workable and acceptable. Further discussion of these is included within the Action Plan, which has been added to the draft SMP document.

3.12 SOCIAL JUSTICE

3.12.1 Summary of consultation responses

"This strand includes issues whereby consultees feel that "fairness" has not been applied when developing the draft policies. In the main, this involves properties and land that were previously protected through defences now to be lost. Those who have retired and moved to the area make the point that their properties represent their life's work and savings and that the loss of the property is

⁸ Defra statement on Flood and Coastal Erosion Risk Management. <http://www.defra.gov.uk/envirom/fcd/>

⁹ A copy of the Human Rights Act 1988 is available at <http://www.opsi.gov.uk/acts/acts1998/19980042.htm>

¹⁰ Defra Guidance Note. <http://www.defra.gov.uk/envirom/fcd/policy/unecseadef.htm>

poor reward for those who have contributed so much to society including fighting in the last war etc. They believe it unjust and unfair that an “arbitrary” change in policy can lead to the loss of their cliff-top properties that were bought on the understanding that defences would be maintained. This contradicts their belief that it is a perceived national obligation to provide protection to the community and their property. Others question why they should suffer loss of their property and assets for the benefit of others – they refer to the scenario whereby material from eroding cliffs is deposited on adjacent beaches and offers protection to other communities.”

3.12.2 CSG Response

As stated in Section 3.11, the flood and coastal defence operating authorities have permissive powers to undertake works to manage risk - there is no statutory obligation on operating authorities to undertake defence works and similarly no statutory right to levels of protection¹¹.

Decisions on policy have been undertaken through full appraisal of social, economic and environmental factors and are far from arbitrary. It is not correct to suggest that realignment/non-intervention policies are in place for certain locations purely to enable sediment provision to downdrift shorelines. This is certainly a benefit of not building/maintaining defences, but the nature conservation impacts, loss of amenity beaches, greatly increasing costs, etc all provide ‘other’ reasons why defending may not be the most appropriate solution.

A number of comments received relate to the continued development within risk areas. As stated in the Section 3.11, a government target is to reduce risk through controlling development in risk areas. The SMP will inform this process through providing a large-scale assessment of the risks associated with coastal processes and presenting a long-term policy framework to address the sustainable management of risk. Planners are required to take account of risks from coastal erosion and flooding through the Planning Policy Guidance notes PPG25 and PPG20.

¹¹ Defra statement on Flood and Coastal Erosion Risk Management. <http://www.defra.gov.uk/enviro/fcd/>

4 Implementation of the SMP

All comments received through the consultation process have been thoroughly reviewed and considered without exception. Many comments are of a similar nature and particular concerns raised relate to the impacts on coastal communities, under the themes of human rights, social justice and compensation.

The CSG has endeavoured to answer the issues raised in this document, but it should be recognised that the answers to some of the issues lie outside of the remit of the SMP. Where this is the case, the CSG are forwarding these concerns to appropriate bodies, for consideration.

Defra require an SMP to be in place to inform future decisions on shoreline management and the requirement for the SMP at this stage is to present policies in accordance with current legislation and policy. Following consideration of comments, in no instance has a case been identified to justify a change any of the SMP policies presented in the original consultation draft. Alterations and additions to other sections of the SMP have been made, where necessary, in response to comments received.

An Action Plan for implementation of the plan has been added to the consultation draft. This document outlines the steps required to ensure SMP recommendations are taken forward in the immediate term, both in planning and coast defence, and identifies the need to initiate further studies/ actions to facilitate the implementation of the longer-term plan. Some of these actions, such as consideration of compensation measures, will require decisions to be made at government level.

The Final Document will be made publicly available and will also inform planning committees.