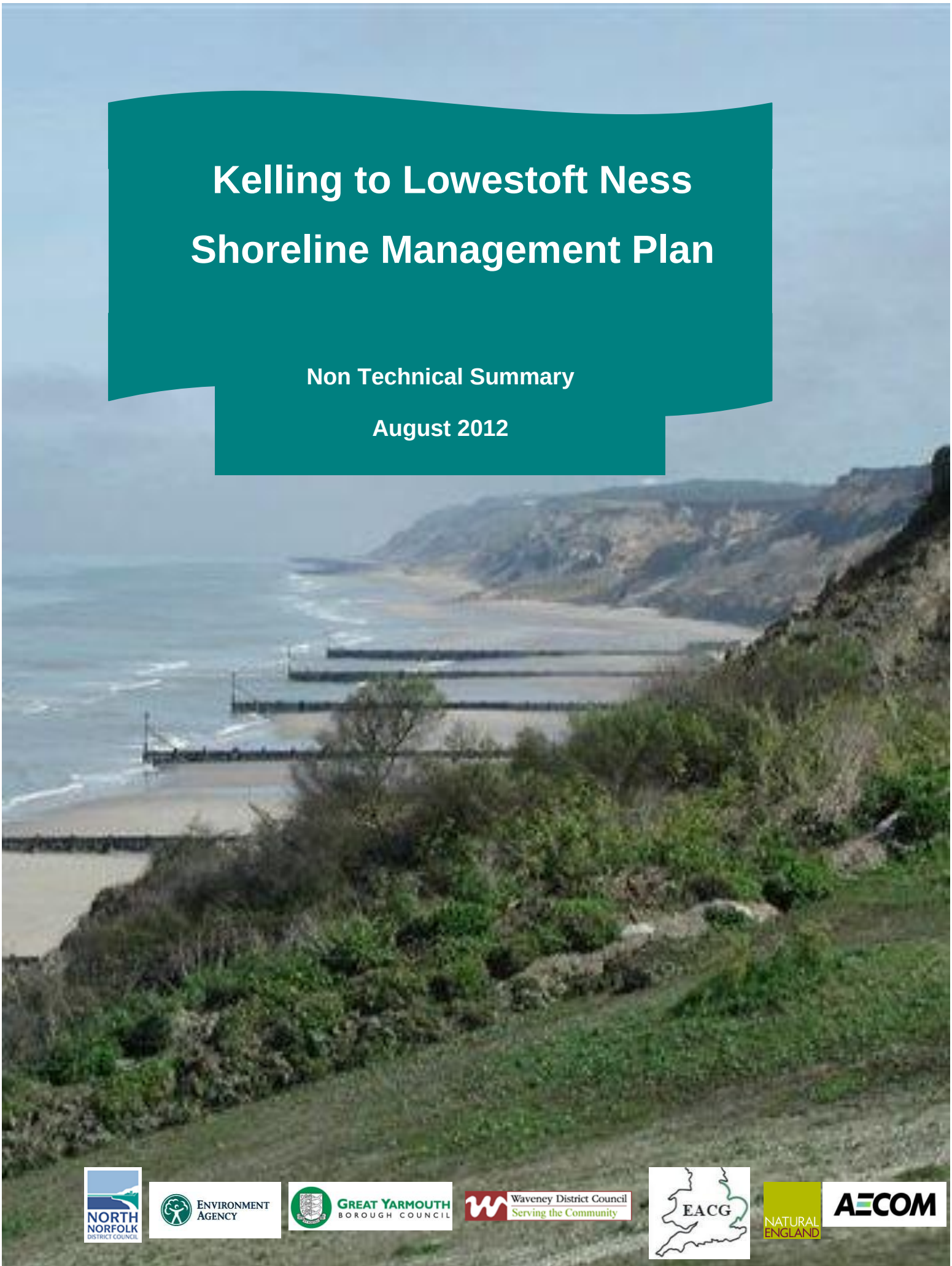


Kelling to Lowestoft Ness Shoreline Management Plan

Non Technical Summary

August 2012

NORTH NORFOLK DISTRICT COUNCIL

ENVIRONMENT AGENCY

GREAT YARMOUTH BOROUGH COUNCIL

Waveney District Council
Serving the Community

EACG

NATURAL ENGLAND

AECOM

Contents

FOREWORD

The final version of the SMP (first review) includes some critical changes in its approach to policy setting, which have been identified in response to comments and concerns raised by local communities after the publication of the draft report in 2006. In this Non-Technical Summary of the Shoreline Management Plan (SMP) it is not possible to fully convey the complexity of issues that has had to be considered in identifying policy options for this coast. The full text also identifies the risks and uncertainties that cannot be resolved within the SMP, and, most importantly, the actions that need to be taken in order to resolve these issues in the future.

We would therefore strongly encourage you to read the full text of the SMP, which can be found at http://www.eacg.org.uk/

The contents of the full document include the following:

1 Non-Technical Summary

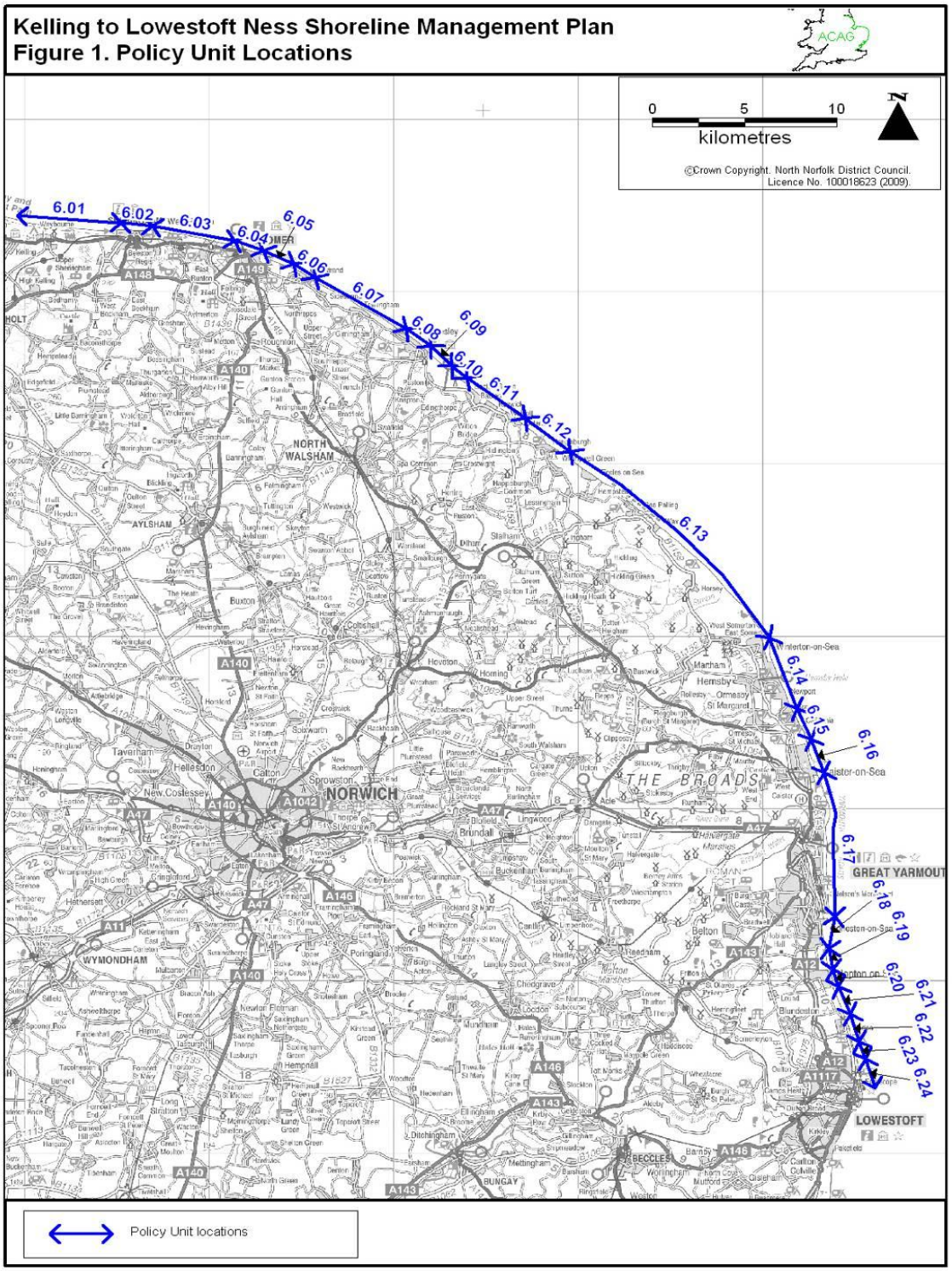
1.1 WHAT IS A SHORELINE MANAGEMENT PLAN?

A Shoreline Management Plan (SMP) provides a large-scale assessment of the risks associated with coastal erosion and flooding for a particular section of the coast. SMPs have been developed for the whole of the coastline of England and these build upon the first round of SMPs which were produced in the mid 1990s. The SMP presents a policy framework to address risks to people and the developed, historic and natural environment in a sustainable manner and is intended to inform policy setting and planning decisions over the next 100 years. Within the overall 100 year time frame, processes and policies are considered for the short, medium and long term. The SMP sets out a route that can be followed to manage the coast sustainably, identifying changes of policy needed over time. SMPs will continue to be reviewed and updated periodically to ensure the policies are still appropriate and are based on the most up to date information.

The objectives of the SMP are as follows:

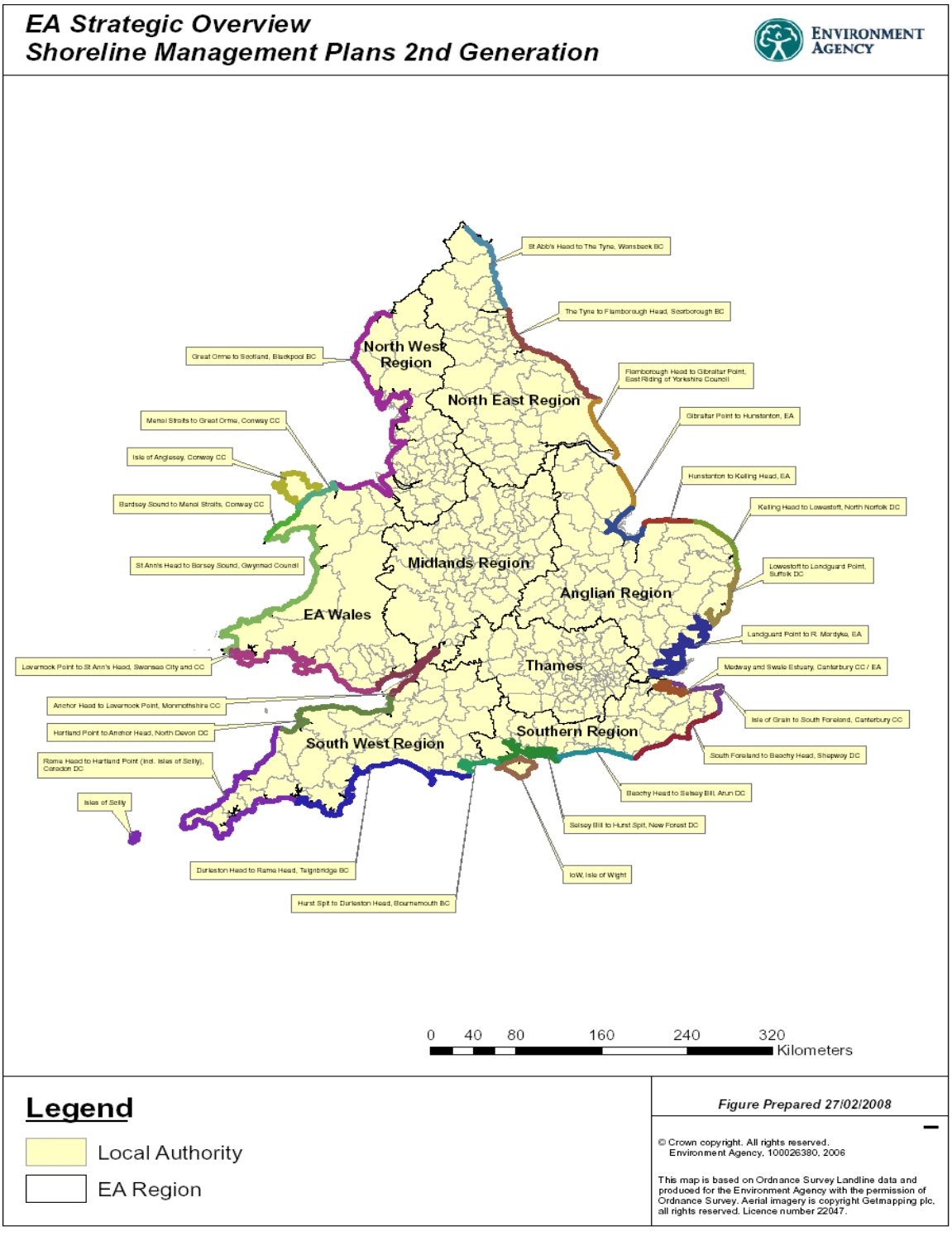
- to define, in general terms, the risks to people and the developed, natural and historic environment, within the area covered by this SMP, over the next century.
- to identify sustainable policy options for managing those risks.
- to identify the consequences of implementing these policy options.
- to set out procedures for monitoring the effectiveness of the SMP policy options.
- to identify areas that the SMP cannot address when following current guidelines.
- to inform others so that future land use and development of the shoreline can take due account of the risks and SMP policy options.
- to comply with international and national nature conservation legislation and biodiversity obligations.

The area considered by the Kelling to Lowestoft Ness Shoreline Management Plan is shown on **Figure 1**, which also shows the policy units identified.



1.2 HOW OUR COAST WORKS

The coast of England is divided up into 26 coastal cells, which are illustrated on the following plan.



This SMP covers the length of coast between Kelling Hard in North Norfolk and Lowestoft Ness in Suffolk. This area includes some of the most famous and scenic stretches of coastline in England. The north western part is elevated with clay cliffs dominating the coastline. Sections of this coast are very prone to cliff erosion. The section of the coast in front of the Norfolk Broads is much flatter and is fronted by extensive dunes and broad sandy beaches. This section of the coast is liable to erosion and flooding as the land behind the coastal strip is at or below sea level. South of this the land behind the coast rises again and is less vulnerable to coastal flooding, but there are still areas that are prone to coastal erosion.

This section of shoreline is largely self-contained with respect to coastal processes. There is a very little alongshore sediment transport at the boundaries of this coastal cell and therefore the policies set out within this SMP will not affect the coastlines of the neighbouring SMP units.

1.3 A HISTORY OF THE KELLING TO LOWESTOFT NESS SHORELINE MANAGEMENT PLAN.

This section of coast was originally within two SMP areas, both published in 1996. The majority of the coast was included in the Sheringham to Lowestoft Plan and the remaining section in the west was covered by the Snettisham to Sheringham Plan.

In March 2006 the first draft of the SMP for the Kelling to Lowestoft Ness section of coast was published as a pilot study, testing the implementation of new guidance for SMPs. Since the first plan was produced there had been a range of national studies undertaken including Futurecoast, Foresight, UK Climate Impacts Programme. These studies provided new information, and in light of this, it was acknowledged in new guidance that the current shoreline management policies may no longer be practical or acceptable in the long term. This new plan also considered the changes to the coast over a much longer time frame (one hundred years).

An extensive public consultation exercise was undertaken during the preparation of the Kelling to Lowestoft Ness SMP (First Review). This generated 2,430 responses, predominantly objections, from residents, businesses, Parish Councils and other organisations. Since this time, there have been discussions between the local authorities and a variety of key local groups. These have helped develop a better understanding of the concerns and helped the various parties to begin to work together towards an agreed final document. In particular, neither the original SMPs nor their draft replacement addressed the consequences of proposed shoreline management policies for people and communities. This has proved to be one of the major areas of concern for affected coastal communities.

1.4 FINALISING THE SMP

In November 2008, the local authorities together with the EA and supported by consultants began the process of finalising the Kelling to Lowestoft Ness SMP First Review, taking into account the issues raised and the modifications already made by the different local authorities. This process includes

consideration of the types of measures which may be required to help address some of the social consequences of the proposed policies. It also considered the timescales over which appropriate social mitigation and adaptation measures might be developed and implemented. We would encourage you to read the full SMP report as it conveys, in a way that a summary document cannot, the complexity of issues considered in developing coastal policy, and also highlights the risks and uncertainties that cannot be resolved at a strategic level.

The finalisation process of this SMP has also provided an opportunity to update or prepare the supporting documents required. These are the Strategic Environmental Assessment report, a Habitats Regulation Assessment report and a Water Framework Directive Compliance report.

1.5 THE SUSTAINABLE APPROACH

Sustainability, as it applies to coastal management, means making decisions that balance economic, social and environmental issues, and do not impose problems on to future generations that could be avoided by decisions taken now.

Issues of sustainability are the driving force behind policy decisions for the management of this coastline over the next 100 years. As well as the risks of coastal erosion in the northern and southern parts of the SMP area, there are large areas where coastal flooding would occur in the absence of a sea wall between Eccles and Winterton. Eastern England has been gradually sinking since the last ice age and we have now also entered a period of rising sea levels and a changing climate. This not only means that there will be increasing pressure on the existing defences, but in the long term could lead to a loss of beaches and sand dunes and have impacts on other parts of the coast, where the line of defence is held. However a policy of not defending will have more immediate impacts on local communities and the local economy. In developing the final version of the Shoreline Management Plan, the task has been to consider how to approach coastal management policy in a truly sustainable way, taking on board the available evidence and the responses received to the consultation on the draft plan.

The SMP predicts the extent of the changes that will arise along the coastline (influenced to varying degrees by the SMP policy) as well as many of the consequences of that change; it is not itself, however, a vehicle for mitigating any of the adverse impacts that might arise as a result of that change. Indeed property transactions and investment decisions can be affected by the predictions of change (contained in the SMP), often long before its physical effects are experienced. The consequences of a change in policy on physical processes are relatively well understood. The likely impacts on wildlife habitats can be reasonably well predicted and it should be possible to ensure that these aspects are taken into account over time. The options for mitigating the consequences of a change in policy on communities, and the economy on which they depend, however, are not as clear.

The key to producing a final SMP document that is acceptable to local communities has been to ensure that there is a full understanding of what social mitigation measures are available, and to set in motion studies to investigate what coastal authorities can do, to assist in the process of adapting to

coastal change. The Government published 'Adapting to Coastal Change: Developing a Policy Framework' in March 2010, which states that:

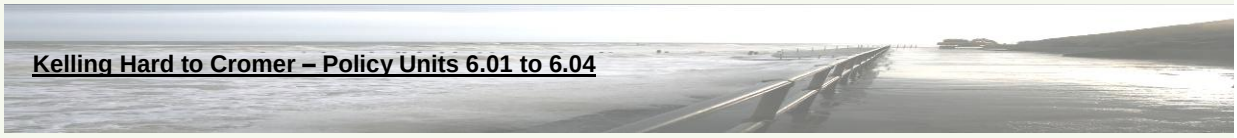
"Government is committed to maintaining sustainable coastal communities. This means that, where coastal change happens, all aspects of the affected communities need to be supported to help ensure they remain attractive places for people to live in and visit, and support thriving local economies. Local communities need to be informed, engaged and enabled to take an active part in deciding what happens locally."

While the timing of policy changes may be uncertain, the SMP provides guidance on how communities, including individuals, can adapt to coastal change now and in the future. A key aspect of this is likely to be the role of the local planning authorities in preparing their local planning policies.

1.6 POLICY UNITS

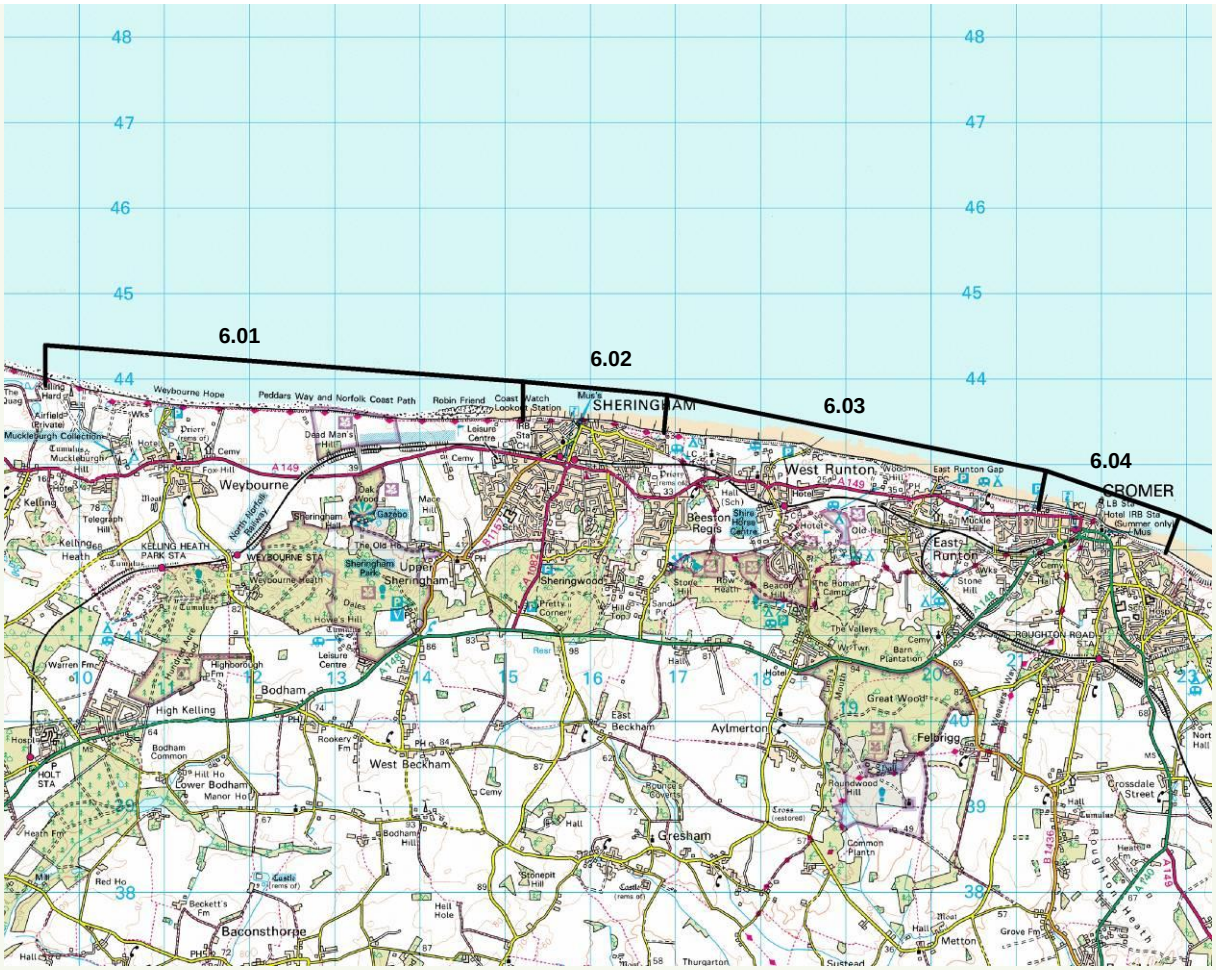
The SMP encompasses the stretch of the coastline between Kelling in the north and Lowestoft Ness in the south. Along this section of the coast there are five commercial centres, Sheringham, Cromer, Great Yarmouth, Gorleston and Lowestoft. Between these centres there are a number of smaller towns and villages situated within agricultural land. Also located along this section of the coastline are the Norfolk Broads which is Britain's largest nationally protected wetland totalling 303 sq km. The area comprises rivers, shallow lakes, marshes and fens formed through the reclamation of land which began in the thirteenth century. This area is internationally important both for its conservation value and tourism and recreation, attracting over two million visitors per year.

This SMP constitutes SMP 6 in England. Within this the coastline has been divided up into a further 24 policy units. The following sections provide a brief overview of the policy units.



Kelling Hard to Cromer – Policy Units 6.01 to 6.04

The towns of Sheringham and Cromer provide two of the main centres in the whole of North Norfolk. These towns are both situated on the northward facing shoreline, which is characterised by low rates of sediment transport and relative stability when compared with much of the rest of the SMP coastline. Furthermore, sediment from the eroding cliff between these towns provides little contribution to beaches beyond these points. Therefore both Sheringham and Cromer can be protected for the foreseeable future without unduly compromising protection of other frontages. Both towns have a range of facilities that service other communities in the area and are key locations for local trade, including the tourism industry. There is strong justification for seeking to prevent erosion of these particular frontages and the consequent loss of properties and services.



It is unlikely in the long term that any beach would exist in front of the Cromer and Sheringham defences; therefore the character of these frontages would alter, although some beach would probably still exist between these two towns, due to erosion being allowed to continue.

Apart from the towns of Sheringham and Cromer, it is highly improbable that there would be economic justification for future defence. Therefore, the Plan is to allow retreat once existing structures reach the end of their effective life.

East of Cromer to Happisburgh – Policy Units 6.05 to 6.12

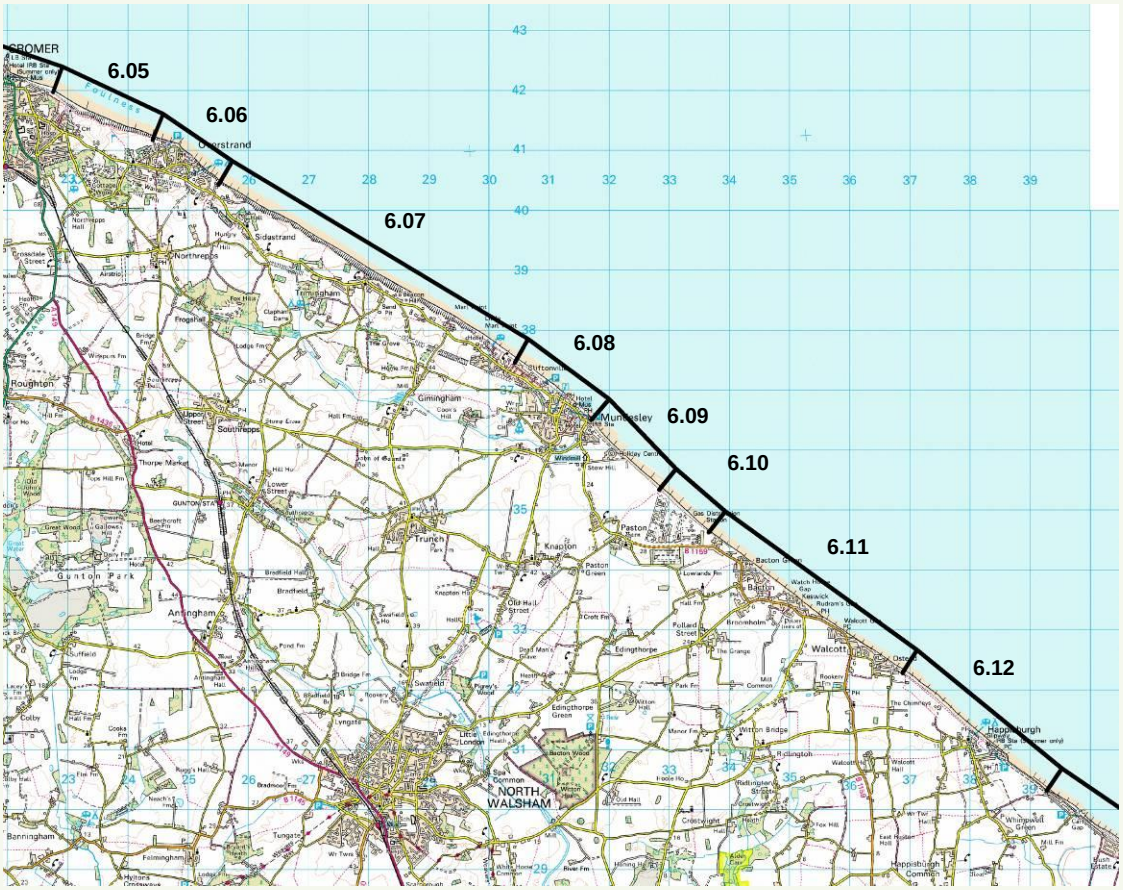
This is the most physically active length of coast within the SMP area and is the main provider of sediment for beaches throughout much of the SMP frontage. Erosion of this section of coast is desirable to (a) allow beaches to build, which will help avoid accelerated erosion of the shorelines here and elsewhere and thus provide better protection to towns and villages, and (b) satisfy nature conservation and biodiversity requirements.

Because of the rapid natural erosion rates here, fixing the shoreline in any location would result in a sizeable promontory forming. Along this section, this would act as a ‘terminal groyne’ in the long term, with material

reaching this point more likely to be deflected offshore and lost altogether rather than either remaining as a beach in front of these defences or reaching destinations down coast.

However, there are numerous assets that would be affected by wholesale abandonment of defences through this area, notably the sizeable villages of Overstrand and Mundesley, Bacton gas terminal, and the smaller settlements of Trimingham, Bacton, Walcott and Happisburgh. The continued defence of these areas may not be sustainable in the long term for the reasons highlighted above. In some cases it is also highly unlikely that such a policy could continue to be economically justified in the long term. Consequently, the policy options for this area need to allow for managed change, continuing to provide defences where justifiable for the immediate future, but with a long term Plan to gradually retreat and relocate, thus enabling a naturally functioning sustainable system to re-establish.

Both Overstrand and Mundesley will continue to develop as promontories if their present positions are defended. This would result in as much as 70% of the sediment supply to beaches throughout the SMP area being isolated or lost offshore. Similar arguments apply to Bacton gas terminal. Consequently, the most sustainable approach for the SMP as a whole is to manage a retreat at these locations in the medium to long term, although the timings of any change are not certain. It would, though, require the relocation of a large number of people, property and services within these settlements. The Plan will therefore seek to maintain present defences for a period of time to allow the important social mitigation measures and mechanisms required to facilitate such changes to be put in place. It is important to note that should a policy of retreat not be adopted at all locations, this would put into doubt the policy options set elsewhere along this stretch and to Winterton to the south.



At present the policy for Bacton (6.10) is to hold the line over all three timeframes. The facility is nationally important and there are plans to maintain the facility into the future as part of offshore gas and storage proposals. However it is also known that defending this position could potentially block up to 70% of the sediment supply for the entire SMP area without which erosion could be accelerated elsewhere. Therefore this policy is conditional on identifying options with the owners of this facility for continuing the vital sediment movements in the medium and long term such as sediment bypassing.

These same arguments apply to the remaining settlements along this stretch of coast, i.e. defending them is not sustainable as it will contribute to even more significant problems elsewhere. Furthermore, there is insufficient economic justification for replacing defences to these smaller settlements. Therefore the policy option is to not maintain existing structures. Whilst erosion may initially occur at a significant rate, as the shoreline reaches a more natural profile this rate will slow down as the release of more sediment to the beaches will mean greater natural protection is afforded.

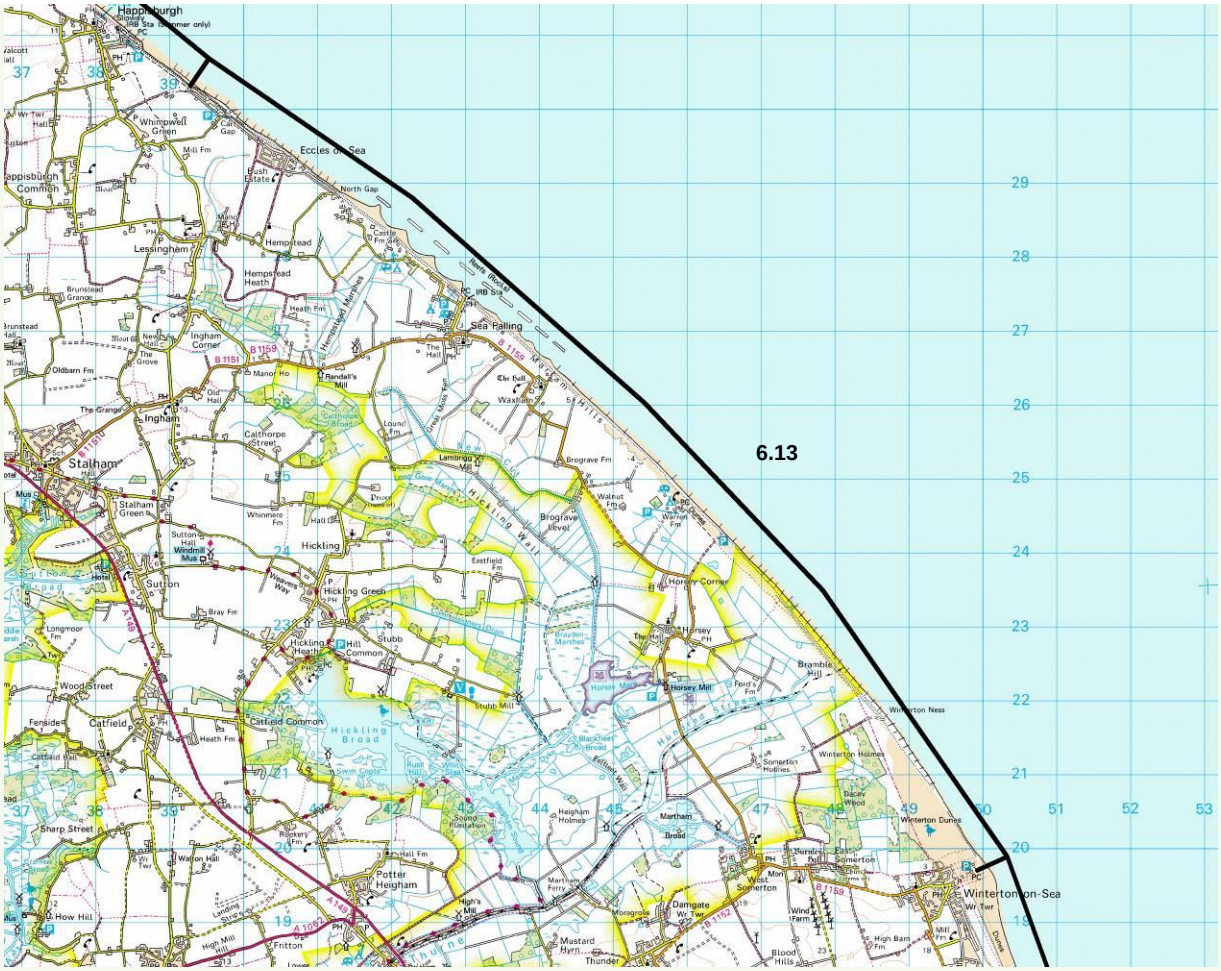
The Plan may mean allowing erosion throughout much of this area in the longer term, although the timings are unclear. However, to manage the relocation process, including implementing social mitigation, occasional measures to slow (but not halt) this erosion from time to time may be acceptable in some locations where there are larger concentrations of assets, i.e. Overstrand, Mundesley, Bacton gas terminal, Bacton, Walcott and Happisburgh.

Eccles to Great Yarmouth – Policy Units 6.13 to 6.17

Sustainability in all senses of the word can be optimised throughout this section if minimal intervention is practised. This therefore underpins the long term Plan for this area.

Similar arguments to those presented for the shoreline to the north, apply to this length of coast, i.e. hard defence of existing positions will prevent the natural movement of sediment, and structures will become increasingly difficult to maintain or justify over time, as the coastal system retreats. This whole length of coast is reliant upon sediment eroded from the cliffs of North Norfolk for beaches to provide natural defence, although in recent years this has been supplemented through recharging beaches along the Eccles-Waxham frontage and at Caister, to address any shortfall in material supply.

The unacceptably low beaches experienced in front of the Happisburgh to Winterton sea defences in the late 1980s and 1990s are a measure of how advanced coastal retreat had become. This is currently being addressed with a programme of groyne replacement and beach recharge, but continuing to apply these measures may become increasingly difficult to sustain over time. The impacts upon areas further down coast, i.e. Winterton and beyond, may also be significant if this position continues to be held in the long term as they will ultimately receive no natural sediment, significantly depleting beaches and accelerating erosion. However, there is a great deal at stake in terms of communities and land that would be affected should the line not be held. The policy option for this area is therefore to hold the line, but to continue monitoring the situation to ensure that it remains sustainable to do so. Of particular importance will be specialist studies to assess the full implications of this policy for land use and designated habitats to inform the next review of the SMP.



The approach for Winterton to Scratby is one of managed realignment, however if physically possible and funding is available, the line will be held at Scratby in the short term to allow for social mitigation measures to be developed. In addition some localised dune management will be put into place.

At the southern end of this section is Great Yarmouth. With the exception of the northern and southern extremities of the town, defence is primarily provided by an extremely wide and healthy beach, which has been fed by sediment derived from cliff erosion in Northeast Norfolk. Even with the onset of sea level rise, this beach is expected to continue to provide ample protection without the need for any intervention, other than at the extremities, provided that a sediment supply is maintained. If material does not continue to reach this destination then accelerated erosion may take place, necessitating the introduction of major defence works in the future as Great Yarmouth is the major economic centre within this SMP, and is a location that justifies full protection against erosion or flooding. This needs to be reflected by adopting complementary policy options for the presently defended areas of California and Caister. Whilst these locations will continue to be defended for some time, if this continued into the long term, these would become very pronounced, potentially interrupting sediment transport to Great Yarmouth and beyond, and indeed the rest of Caister itself. Therefore the longer term Plan needs to allow for some realignment of the shoreline to take place northwards from Caister Point to enable improved material movement along this coastline. This will still result in the protection of most development at Caister, whilst helping to ensure the protection of all assets in Great Yarmouth and to maintain the nature conservation interests.

Gorleston to Lowestoft – Policy Units 6.18 to 6.24

There are considerable numbers of properties between Gorleston and Lowestoft. As a result of Great Yarmouth having been built on a former spit, Gorleston is already set back from the coastline to the north, and is not interrupting the transport of any sediment that travels southwards bypassing the harbour. The construction of the Outer Harbour was identified at planning stage as having potential to alter sediment movement with implications for shoreline management actions to the north and [more likely] to the south. In response a rigorous monitoring and impact assessment process was agreed between operating authorities and the Port Authority. If significant impacts are identified that are attributable to the port development then mitigation by the Port Authority will be required. The continued defence of this area can therefore be achieved without this becoming a promontory and the high economic value of properties at Gorleston, as well as it being part of the regionally important conurbation of Great Yarmouth, justify continued protection as long as this is sustainable. However, future defence would be more sustainable if supported by a sediment input, which may be achieved through erosion to the south.

Lowestoft is a major town with commercial assets located at or around Ness Point. This is already a highly

pronounced promontory and has little beach remaining, due to its exposure. However, material does not currently bypass this point to feed beaches to the south; therefore continued protection of these assets will have no impact elsewhere. Even with an increased supply of sand to this area, beaches could not be retained. Therefore achievement of the Plan will require substantial structures, although a supply of beach material is also important to reduce the risk of residential property loss and pollution risk at the north end of Lowestoft at Gunton, and to maintain environmental interests there. The proximity, size and profile of offshore sandbanks at this location significantly influence foreshore conditions.

Between Gorleston and Lowestoft lie Corton and Hopton, where there are also a considerable number of properties. This area has a history of erosion problems and it will only be possible to defend in the medium to long term once there has been some natural realignment of the coast. At Corton attempts to prevent erosion since Victorian times have resulted in this frontage becoming a promontory. This has made the retention of a sustainable beach increasingly difficult, adding to the stress upon any structures placed at the foot of the cliff, and interrupted the transport of sand to Gunton and Lowestoft, exacerbating problems there. The key to more sustainable management of Corton and Hopton, that will not accelerate erosion at Lowestoft, is to allow the shoreline to retreat to its “natural” position, in line with the coast to the north and the south, thus ensuring a sediment supply to support a beach. The Plan therefore is to not attempt to prevent retreat once the present defences at Corton reach the end of their effective life, although some erosion-control measures might be acceptable in the long term. Implementation of this approach requires more detailed assessment that will be done as part of the coastal strategy study review.

The defences at Hopton will initially be maintained in the short term; however protecting this area in the long term will simply reproduce the problems already experienced at Corton. It is therefore essential that whilst the defences are maintained in the short term that appropriate social mitigation measures are identified at this early stage. This policy decision however will need to be confirmed by detailed investigations and subject to the review of the costal strategy.

Important to the settlements of Gorleston and Lowestoft is an adequate supply of beach material. The majority of this will need to come from local cliff erosion. These beaches will reduce exposure and volatility, helping to lower the rates of erosion there and reduce additional defence needs. The long term Plan is therefore to allow the cliffs between these locations to freely erode, through not replacing existing defences once they reach the end of their life. Whilst some losses of land and property will inevitably result, this material is necessary to provide the greater benefits elsewhere.

1.7 POLICY OVERVIEW

SMP guidance includes the following three policy options that are relevant to this SMP: The policy options that are set out within this SMP are based on a strategic level of assessment and will need to be confirmed by more detailed costal strategies.

- **Hold the existing defence line** by maintaining or changing the standard of protection. This policy should cover those situations where work or operations are carried out in front of the existing defences (such as beach recharge, rebuilding the toe of a structure, building offshore breakwaters and so on) to improve or maintain the standard of protection provided by the existing defence line. This policy description includes other policies that involve operations to the back of existing defences (such as building secondary floodwalls) where they form an essential part of maintaining the current coastal defence system.
- **Managed realignment** by allowing the shoreline to move backwards or forwards, with management to control or limit movement (such as reducing erosion or building new defences on the landward side of the original defences) or to make safe defunct defences.
- **No active intervention,** where there is no investment in coastal defences or operations**.**

Some sections of the coast have either never been defended, or it is clearly not viable to continue to defend them, and no action will be taken to defend these into the future. Where there are existing defences that will fail within the timeframe of the SMP, it will be necessary to ensure they are safely removed, which is a form of intervention; such sections have a policy of managed realignment in the short term, to allow this work to take place. In some instances managed realignment is indicated in all three timeframes. However in each of these units there will still be a change of approach, i.e. reduced intervention or removal of defence ruins at some time within the period of this SMP. These policy units are shown in Table 1.

Table 1: Policy Units that will not be defended into the long term.

	Policy Unit
6.01	Kelling to Sheringham
6.03	Sheringham to Cromer
6.05	Cromer to Overstrand
6.07	Overstrand to Mundesley
6.09	Mundesley to Bacton Gas Terminal
6.12	Ostend to Eccles
6.14	Winterton to Scratby
6.19	Gorleston to Hopton
6.21	Hopton to Corton
6.23	Corton to Lowestoft

For the major settlements on the coast it is not realistic to stop defending them; however decisions will need to be made as to how to defend these areas, and whether measures are required to mitigate the consequences of defending these sections of the coast. These are shown in Table 2.

Table 2: Policy Units that will be defended into the long term

	Policy Unit
6.02	Sheringham
6.04	Cromer
6.10	Bacton Gas Terminal
6.17	Great Yarmouth
6.18	Gorleston
6.24	Lowestoft North (to Ness Point)

However for a number of sections of the coast it is identified that continuing to maintain adequate defences cannot be sustained in the medium or long term, and that a change to 'managed realignment' will be necessary at some time during the timeframe of the SMP. The precise timing of any change is uncertain and must be the subject of further studies to determine the 'tipping point'. This 'tipping point' is very difficult to predict, but in general terms it would be reached when the cost, environmental and physical consequences of defending this section of the coast are greater than the social, economic and environmental costs of setting back the defence line. In the case of the Eccles to Winterton coastline, the 'tipping point' may occur beyond the 100 year period covered by the SMP. This section of coast is therefore unique in having a conditional hold the line policy in the 50-100 year period.

Where a change in policy from present management is proposed, it is essential to stipulate that appropriate social adaptation measures must be identified and (where this is within the power of coastal authorities to do so) implemented well in advance, to mitigate the impacts of that change, particularly on coastal communities. Such measures may include limited works to slow erosion and delay the impacts of change. Only by working closely with the affected communities can this approach to policy be realistically promoted and adopted by coastal authorities. These 'changing' policy units are identified in Table 3.

Table 3. Policy Units with a policy change over time.

	Policy Unit
6.06	Overstrand
6.08	Mundesley
6.11	Bacton, Walcott and Ostend
6.13	Eccles to Winterton Beach Road
6.14	Winterton to Scratby
6.15	California, to Caister-on-Sea
6.16	Caister-on-Sea
6.20	Hopton
6.22	Corton

1.8 TAKING ACTION

The revised SMP takes a different approach to setting policy from the previous versions of the plan. These differences have been incorporated in direct response to the concerns of coastal communities, and places conditions on many of the policy options requiring social mitigation to be identified before changes to policies can take effect. Other policies are conditional upon the outcomes of further studies and of future monitoring to record what is happening to habitats and species as well as to the coast itself.

Action is needed to take these conditions forward, and the SMP includes a detailed Action Plan; some of the key actions are summarised in Table 4 below. These are supported by more general actions which is summarised below and relate to the need for the Environment Agency and the local authorities to work together with local communities and other organisations to identify appropriate measures to help people, businesses and the environment adapt to the changing coast. These actions include works or studies:

- To ensure coastal management is embedded into local planning policies
- To undertake studies to ensure coastal behaviour is fully understood in the light of changing defence policies.
- To ensure social and economic consequences to be a key part of the brief for all future coastal strategy studies.
- To take into account the results of the coastal pathfinder studies in future studies and plans.
- To work closely with local communities during the identification and development of social mitigation measures.
- To identify social mitigation measures that are deliverable, and to identify who is responsible for their delivery.
- To monitor changes on the coast, particularly related to the internationally important habitats that could be affected by policy options.
- To ensure that all decisions are based on the best available information, and that this information is shared between all coastal authorities.

These actions have been developed to ensure that the key issues arising from the development of this SMP – particularly the need to identify social mitigation measures for many communities – influence all future plans, policies and projects affecting the coast.

It is important to note however, that the policies set out in this SMP are based on a strategic level assessment and at this level they are considered to be the most appropriate options to take forward. However, when they are subject to the next tier of assessment (The Coastal Strategy Study) the timing of policy changes may alter or the policies may be found to be more difficult to deliver for physical, social, economic or environmental reasons. For this reason it is important to understand that the policies presented are really policy aims that are subject to confirmation within the coastal strategies.

Table 4. Summary of Key Actions

Policy Unit	Location	Action Description	Lead
All	**Cell wide**	Maximise lives of existing defence structures	All
6.10	**Bacton Gas Terminal**	Work with the owners of the Bacton Gas Terminal to better understand the life expectancy of the site, and the implications of this for the SMP as a whole.	NNDC
6.05 to 6.13	**Cromer to Winterton**	Prepare a Coastal Management Strategy that recognises the existing communities and the undeveloped coast between them. Maintain defences in the absence of an adaptation strategy.	NNDC
6.02	**Sheringham**	Develop a maintenance / refurbishment of existing sea wall with particular attention to toe protection.	NNDC
6.03	**Runtons**	Maintain accesses and local defences at Runton Gaps.	NNDC
6.04	**Cromer**	Take forward the Coastal defence Strategy for Cromer.	NNDC
6.08	**Mundesley**	Maintain / refurbish defences.	NNDC
6.13	**Eccles to Winterton**	Annual beach and bathymetric monitoring with beach recharge and maintenance of structures as necessary supported by appropriate studies.	EA
6.14	**Winterton Ness**	Continue to review rapid retreat rates at Winterton Ness to establish any need for a specific study. Monitor dune erosion to pro-actively implement exit plan if required.	GYBC
6.15 & 6.16	**California to Caister**	Maintenance of existing rock bund, groynes and sea wall	GYBC
6.18 to 6.24	**Gorleston to Lowestoft Ness**	Undertake Coastal Strategy Study (jointly with GYBC), including a review of the approach to management at Corton and Hopton. Study due to commence spring 2012.	WDC
6.21 to 6.24	**Corton to North Lowestoft**	Subject to findings of the Coastal Strategy Study implement management of defences and / or develop adaptation / mitigation measures.	WDC

Prepared by: ..... Environmental Scientist

Checked by: ..... Regional Director

With input from: Jan Brooke
Policy Consultant

Approved by:
Regional Director

Kelling to Lowestoft Ness SMP: Non-Technical Summary

Rev No	Comments	Checked by	Approved by	Date
1	Final	NP	NP	20/05/10
2	Final with QRG	NP	NP	31/03/11

AECOM House, 179 Moss Lane, Altrincham, Cheshire, WA15 8FH
Telephone: 0161 927 8200 Fax: 0161 927 8499 Website: http://www.aecom.com

Job No 60052694 ..... Reference Date Created March 2010