

**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 to 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](http://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 17<sup>th</sup> and 18<sup>th</sup> 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 20<sup>th</sup> 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 impacts<sup>1</sup>. The Environmental Statement needs to include an assessment of the physical impact of aggregate extraction on the hydrographic and seabed environments<sup>1</sup>, 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 issues<sup>2</sup>, 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 dredging<sup>2</sup> 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.

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

<sup>2</sup> Gubbay S (2005) A review of marine aggregate extraction in England and Wales, 1970-2005. Available from [www.crownestate.co.uk](http://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 principle<sup>3</sup>. 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 resolved<sup>1</sup>. Typically, licenced areas lie between five and 35km offshore at depths of 10 to 40m<sup>4</sup> 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 year<sup>5</sup> 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 £570million<sup>6</sup>. 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

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<sup>3</sup> 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](http://www.ices.dk/reports/MHC/2005).

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

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

<sup>6</sup> 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)<sup>4</sup>. Approximately 7% of marine aggregate was used in 2004 for beach replenishment projects in the UK<sup>3</sup>.

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 proceed<sup>2</sup>.

### **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 guidance<sup>7</sup>. 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

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<sup>7</sup> 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 protection<sup>8</sup>. 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 Act<sup>9</sup>. 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 interest<sup>10</sup>. 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

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

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

<sup>10</sup> 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 protection<sup>11</sup>.

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.

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<sup>11</sup> 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.