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## 1 INTRODUCTION

### 1.1 The Shoreline Management Plan

A Shoreline Management Plan (SMP) provides a large-scale assessment of the risks associated with coastal evolution and presents a policy framework to address these risks to people and the developed, historic and natural environment in a sustainable manner. In doing so, a SMP is a high-level document that forms an important part of the Department for Environment, Food and Rural Affairs (Defra) strategy for flood and coastal defence (Defra, 2001). The plan provides both a broad-scale assessment of these risks but also quite specific advice to operating authorities in their management of defences. Through this and through the identification of issues covering a wide spectrum of coastal interests, the SMP supports the Government's aims, as set out in Defra's strategy "Making Space for Water" (Defra 2005):

- To reduce the threat of flooding and coastal erosion to people and their property
- To deliver the greatest environmental, social and economic benefit, consistent with the Government's sustainable development principles.

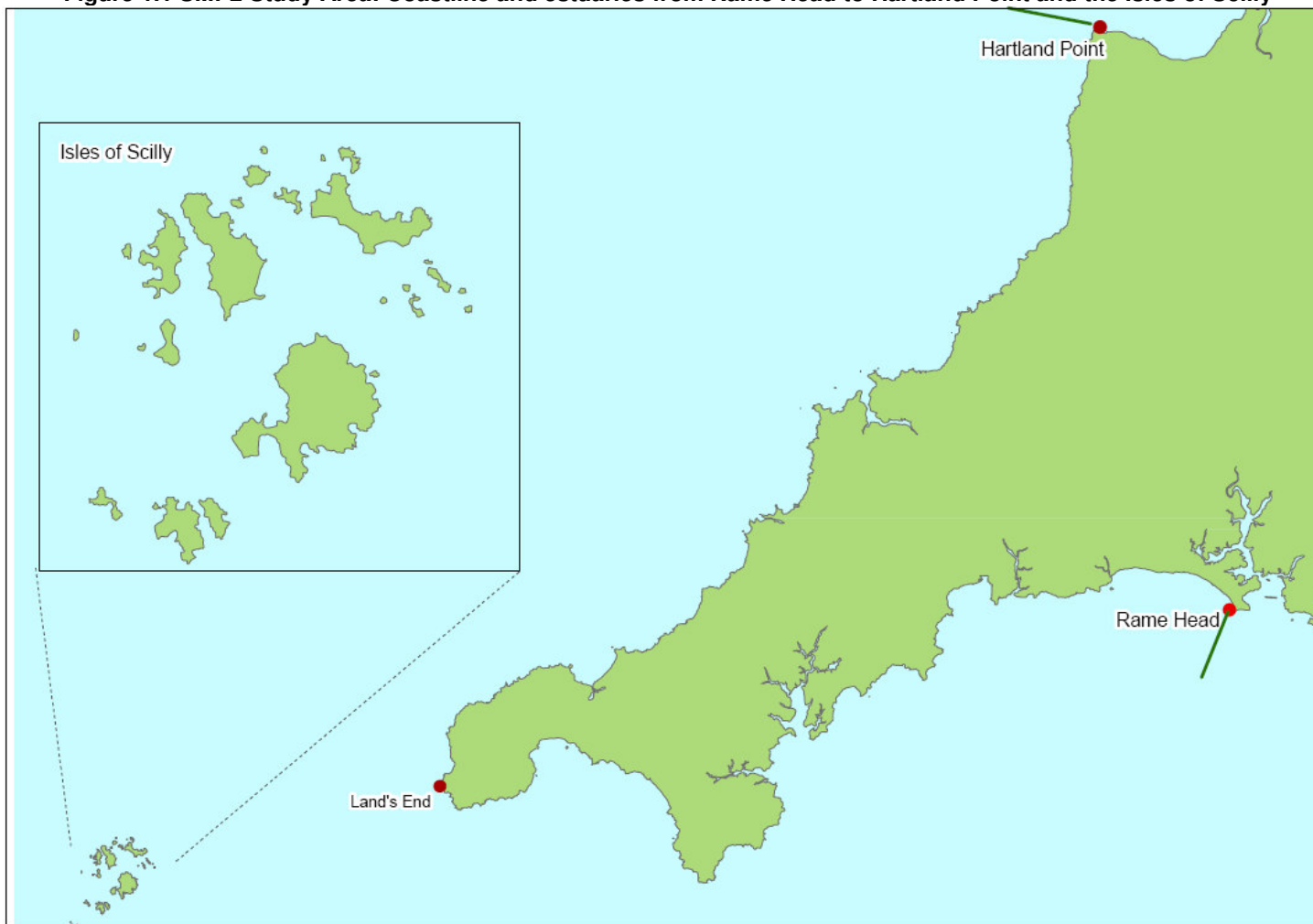
This SMP is a review of the first SMPs produced for the study area over 10 years ago. This SMP Review or SMP2 has been developed by the Cornwall and Isles of Scilly Coastal Advisory Group (CISCAG) on behalf of Cornwall Council (the lead authority), Torridge District Council and the Council of the Isles of Scilly. The SMP2 has been supported throughout its development by a Client Steering Group (CSG).

The SMP2 document sets out the results of the first revision to the original SMPs for the area of coast extending from Rame Head to Hartland Point; covering the whole of the Cornish coastline and a small section of the Devon Coastline between Morewenstow and Hartland Point. The SMP2 also covers five of the Isles of Scilly islands.

This SMP2 collates information from the original SMPs for sub-cells 6d, 6e, 7a, 7b and uses subsequent strategies and studies to review the original SMP1 policy decisions over a longer time horizon and make changes where appropriate. The SMP1 documents covered the following stretches of coastline:

- sub-cells 6d: Rame Head to Lizard Point
- sub-cells 6e: Lizard Point to Land's End
- sub-cells 7a: Land's End to Trevoze Head
- sub-cells 7b: Trevoze Head to Hartland Point

Figure 1.1 SMP2 Study Area: Coastline and estuaries from Rame Head to Hartland Point and the Isles of Scilly



### 1.1.1 SMP Principles

The SMP is a non-statutory policy document for coastal defence management planning. It takes account of other existing planning initiatives and legislative requirements, and is intended to inform wider strategic planning. It does not set policy for anything other than coastal defence management. However, from this perspective, it aims to provide the context to, and consequence of, management decisions in other sectors of coastal management.

The SMP promotes management policies for a coastline into the 22<sup>nd</sup> Century that achieve long-term objectives without committing to unsustainable defence. It is, however, recognised that due to present day objectives and acceptance, wholesale changes to existing management practices may not be appropriate in the very short term. Consequently, the SMP provides a timeline for objectives, policy and management changes; i.e. a 'route map' for decision makers to move from the present situation towards the future.

The first SMPs for the Cornwall and Isles of Scilly coastline were completed in 1999. Since that time, some more detailed studies have been undertaken at sections of the coastline and these, together with academic research and monitoring by the responsible authorities, have improved our understanding of how the coast behaves. In addition many lessons have been learnt with respect to how the SMP should be conducted and indeed how we should be viewing the management of the shoreline. Defra (2001, 2003) undertook a review of the results from SMP1, considering their strengths and weaknesses. This has led to revised guidance. Some of this guidance is targeted at achieving greater consistency in the assessments and presentation of the plans, but there are more fundamental issues that have been identified, which this and other SMP2s must address.

One significant issue is the inappropriateness of certain policies which, when tested in more detail with a view to being implemented, may be found to be unacceptable or impossible to justify; either in terms of economics or from a perspective of what communities need from the coast. It is, therefore, important that the SMP must be realistic given known legislation and constraints; not promising what cannot be delivered but neither delivering in the broader perspective that which fails against the values of the coastal zone. There will be no value in a long-term plan which has policies driven by short-term politics or works that prove to be detrimental when considered several decades into the future.

Equally, the plan must also remain flexible enough to adapt to changes in legislation, politics and social attitudes. The plan therefore considers objectives, policy setting and management requirements for 3 main epochs; from the present day, medium-term and long-term, corresponding broadly to time periods of 0 to 20 years, 20 to 50 years and 50 to 100 years respectively. There is a need to have a long-term sustainable vision, which may change with time, but the SMP must demonstrate that defence decisions made today are not detrimental to achievement of that vision.

This plan covers an area of significant environmental value, but also one which has a strong history of human settlement and present day use. These uses and interests are not inherently opposed. In reality it is the natural attraction combined with the historical coastal use, which gives this area its distinct and considerable value to man in the present day. While individual core objectives or aims may, therefore, be set, and indeed

are set, with respect to each specific aspect of the area, the aim of the SMP2 must be to develop policy where, as far as possible, these specific objectives are not set in conflict. The underlying principle for the development of the plan has been to consider the specific circumstances of the differing sections of the coast and through this understanding, attempt to deliver the greatest benefit to the totality of coastal communities in an area.

### 1.1.2 SMP Process Objectives

The objectives of the SMP process (as distinct from the objectives for management of the coast) are as follows:

- To provide an understanding of the coast, its behaviour and its values.
- To define, in general terms, the risks to people and to the developed, natural and historic environment within the SMP area over the next century.
- To identify the likely consequence of different management approaches.
- To identify the preferred policies for managing those risks or creating opportunity for sustainable management.
- To examine the consequences of implementing the preferred policies in terms of the objectives for management.
- To set out procedures for monitoring the effectiveness of the SMP policies.
- To inform others so that future land use and development of the shoreline can take due account of the risks and preferred SMP policies.
- To comply with international and national nature conservation legislation and biodiversity obligations.

### 1.1.3 Key Principles

The following list of principles reflects the aspirations of all interested parties. They have been used together with their objectives identified for each area of the coast, to aid policy development and identification of specific objectives. These objectives have been developed by consulting the Client Steering Group (CSG), Elected Members Forum (EMF) and key stakeholders, and are presented as aggregated objectives for each area. It is important to note that these come from the values that stakeholders place on the issues and features in each area. Some of these objectives therefore conflict with others. Because of this, the SMP is not able to achieve all of these objectives. The objectives are listed below and are set out in no particular order.

- To support the essential diverse character of the landscape & seascape of Cornwall and the Isles of Scilly
- To allow natural evolution of the shoreline wherever possible
- To minimise impacts upon the historic environment, without unduly preventing natural coastal processes
- To support existing nature conservation values and minimise impacts upon habitats, while allowing adaptive response to natural change
- To support the viability and core values of coastal settlements, in a manner consistent with the Government's sustainable development principles
- To support diversification of tourism and recreational opportunities
- To support the adaptation and resilience of regional and county transport links
- To manage the risks to communities from flooding and support their adaptation and development of resilience
- To manage the risks to communities from erosion and support their adaptation
- To establish a long-term action plan which helps to minimise and reduce the reliance on defences in the future.

#### 1.1.4 Policies

The generic shoreline management policy options considered in the SMP are defined by Defra. They are outlined in the following statements:

- **No active intervention (NAI):** a decision not to invest in providing or maintaining defences or natural coastline.
- **Hold the line (HTL):** maintain or upgrade the level of protection provided by defences or natural coastline.
- **Managed realignment (MR):** manage the coastal processes to realign the 'natural' coastline configuration, either seaward or landward, in order to create a future sustainable shoreline position.
- **Advance the line (ATL):** build new defences seaward of the existing defence line where significant land reclamation is considered.

The following additional information helps to describe the generic policies in more detail:

##### **No Active Intervention**

The policy option of NAI has developed from two distinct set of circumstances. In the first, the SMP has identified the need for the coast to be allowed to develop naturally. Typically, it may be that erosion of a frontage is providing sediment to other sections of the coast and therefore, may be important that the coast is allowed to continue to erode if sustainable intervention is to be achieved elsewhere. Where this or some similar condition applies, this is discussed in the SMP. The other situation where the policy of NAI is defined may arise where it is unlikely that operating authorities would provide funding for defence. It may be that works have a cost/benefit ratio less than one, or there may not be priority funding. Where appropriate, the SMP introduces caveats to make this distinction. The SMP has identified that privately funded works may still be permissible, however, there may be conditions associated with this such that private works do not result in negative impacts on other interests.

##### **Hold the Line**

The intent of this policy option is to maintain defence to important assets or interests at the coast. This does not necessarily mean that the existing defences would be maintained in exactly the same form as they are at present. There may be a need to adjust the local alignment in the future or to replace, or add structures. In this way, constructing cross shore or shore linked structures, such as groynes or breakwaters, may be the approach adopted in the future under this policy in specific cases. The proposed policy therefore sets the intent to maintain defence of the important features in an appropriate manner.

##### **Managed Realignment**

This policy option may arise from a series of different circumstances and objectives. The ethos of MR is that management of the shoreline would be improved by either allowing for and/or creating the conditions for the coast to realign. A very obvious example of this is in moving a sea wall back from the active coastal zone, providing a more secure position for such a defence while the shoreline re-adjusts. Other examples are where intervention at the coast may be less onerous if the coast is allowed to retreat before intervention is undertaken. This may, for example, create the opportunity to

retain a beach in front of a set back hard defence. In summary, MR is used to allow the shoreline to move backwards or forwards, with management to control or limit movement of the shoreline, so as to achieve a specific outcome.

### **Advance the line:**

An ATL policy option may be adopted where advancement of the shoreline would assist in creating a more robust defensive position and provide additional opportunity for increased intertidal width and/or land reclaim. Advancement of the line may not necessarily require the construction of structures seaward of the existing shoreline. Examples include the construction of tidal barriers or outer harbour walls where this provides a more sustainable solution based on the objectives and core values of a given community or settlement. Alternatively, advancing the line can be used in order to introduce variation into the plan shape of a coastal frontage and encourage the accumulation of sediment and promote sustainable management of the intertidal width.

These descriptions indicate the level of detail required by the SMP. In developing these generic policies there is a basic requirement to state the intent of the policy, such that it is the intent, not the definitions given above, that drive future management.

### **Policy option funding**

In areas where a management intervention has been recommended, it is possible that funding may not be forthcoming from the Defra Flood and Coastal Erosion Risk Management (FCERM) budget. The SMP has highlighted this and also identified what additional opportunities and benefits may be gained from the policy option. Caveats are made in these circumstances highlighting the need for collaborative funding to achieve the proposed management plan. This is discussed further in Chapter 6 and Appendix H.

## **1.2 Structure of the SMP**

The preferred plan and policies presented in this SMP are the result of collating and interpreting information from all the available studies and assessments of how the coast behaves physically. There is, therefore, a need to draw these threads together to provide clarity for different readerships. The documentation to communicate and support the plan is provided in a number of parts. At the broadest level these are divided into two; the SMP itself, and a series of supporting appendices. In addition, information is collated in a database linked to a geographical information system (GIS) software viewer, allowing information to be taken forward by future users in order to implement the plan.

### **1.2.1 SMP Report Structure**

This document provides the Plan for shoreline management through setting out the policies that are needed to implement the plan. This is intended for general readership and is the main tool for communicating the intention of future management. This document explains the justification for decisions; however it does not provide all of the information behind the recommendations. This information is contained in the SMP Appendix documents.

The Plan is presented across six chapters as follows:

Chapter 1 Gives details on the principles, aims, structure and background to the development of the plan.



- Chapter 2 Provides details of how the SMP meets the requirements of a Habitats Regulations Assessment (HRA) and Strategic Environmental Assessment (SEA).
- Chapter 3 Presents the basis for development of the Plan, providing a broad overview of the Plan area, describing the concepts of sustainable policy and providing an understanding of the constraints and limitations on adopting certain policies.
- Chapter 4 This Chapter aims to lead the reader through the process of how the plan has been developed (it has been frequently stated that there is as much value in the thought process of developing the SMP as there is in the actual policies themselves). The Chapter starts with a discussion of large segments of the coast (called Policy Development Zones (PDZ)). Within these zones the coast is described and the way in which the coast might behave is explained if:
- A) no further defence work was undertaken (the NAI scenario)
  - B) present management is continued into the future; the With Present Management (WPM) scenario.
- These are defined as the two baseline scenarios in undertaking the review. Consideration of these scenarios develops an understanding of the pressures which may develop on the coast under different approaches to management. It allows an assessment to be made of how under each scenario the SMP objectives are achieved or not.
- From this assessment, alternative approaches or scenarios are examined and from this the preferred draft Plan is developed. To achieve this Plan, individual policies for sections of the coast are derived called Policy Units (PU). These units are finally grouped into Management Areas (MA), pulling together policy units which have a basic interdependency.
- For each MA, statements are prepared setting out a summary of the plan intent, the necessary actions over different time scales, and the impacts of the preferred policies.
- The mainland coastline has been divided into 17 PDZs, within which there are 41 MAs and over 190 PUs. The Isles of Scilly has been allocated as its own PDZ (PDZ18), with the islands that we are considering grouped in to 4 MAs. In total there are 57 PUs within the Isles of Scilly PDZ.
- Chapter 5 Brings together the overall plan, highlighting important issues in relation to the future management of the coast and providing an overall summary of the policies which are preferred at each location to implement the Plan.
- Chapter 6 Following consultation on this draft plan, an Action plan will be produced. The Action Plan provides a programme for future activities which are required to progress the Plan between now and the next SMP review.

## 1.2.2 The Supporting Appendices

The accompanying appendix documents provide all of the information required to support the Plan. This is to ensure that there is clarity in the decision-making process and that the rationale behind the policies being promoted is both transparent and auditable. This information is largely of a technical nature and is provided in twelve Appendices (A-L):

- A. SMP Development: this reports the history of development of the SMP, describing in more detail the plan and policy decision-making process.
- B. Stakeholder Engagement: details of how stakeholders have been involved in the SMP process are provided, together with information arising from the consultation process.
- C. Baseline Process Understanding: includes estuary assessment, baseline coastal processes report, defence assessment, NAI and WPM assessments and summarises data used in assessments.
- D. Natural and Built Environment Baseline (Thematic Review): this report identifies the environmental features (human, natural, historical and landscape) in terms of their significance and how these need to be accommodated by the SMP.
- E. Issues and Objective Evaluation: provides information on the issues and objectives identified as part of the Plan development.
- F. SEA: provides a systematic appraisal of the potential environmental consequences of high-level decision-making.
- G. Scenario Testing: presents the policy assessment and appraisal of objective achievement for the No Active Intervention scenario and the Preferred Plan.
- H. Economic Appraisal: presents the economic analysis undertaken in support of the Preferred Plan.
- I. Sets out the supporting information for a HRA of the SMP.
- J. Water Framework Directive (WFD): presents the WFD assessment as developed by the Environment Agency with respect to the SMP policies.
- K. The Metadatabase, GIS Viewer and Bibliographic Database is provided to the operating authorities on CD.
- L. Provides evidence of the formal adoption of the SMP2 by the operating authorities and associated partners.

## 1.2.3 GIS Viewer

The SMP2 provides a future management framework. It is accepted that our understanding of the coast can be improved, addressing the many areas of uncertainty that we are presently confronted with. There will also be changing circumstances not only as the coast evolves but as our use of the coast changes. During the development of the SMP, information on issues, on processes and our assumptions with respect to different aspects, such as the condition of defences or erosion rates, have been recorded.

This information is held within a GIS Viewer. This system links with the Plan. This means that when SMP3 is commissioned, information is readily available to this review process.

One important feature of this information is the record of responses and issues that were raised during the public consultation process. These data have been recorded and have been considered in finalising policy options.

A record of this information is presented in Appendix B. It should assist those managing the coast in the future to identify issues at a local scale, ensuring that views can be readily identified during the actual implementation of the Plan. The degree of effort all consulted have put in to developing the Plan is fully appreciated.

## 1.3 The Plan Development Process

### 1.3.1 The Need for Revision

The original SMP1 documents for sub-cells 6d, 6e, 7a and 7b were completed in 1999. It has always been recognised that an essential part of the SMP process involves plans being reviewed on a regular basis, to ensure the most up to date knowledge and examples of best practice can be incorporated. The review undertaken to produce SMP2 has been very much part of this process.

Initiated by the findings of the SMP1, a considerable effort has been put in place to ensure that there is a better position to make judgements with respect to the coast. There have also been changes in legislation and guidance. In this first revision, therefore, the development of the Plan has been able to draw upon, and has had to take account of:

- A limited number of studies and modelling undertaken since the last SMP, such as that provided by Futurecoast
- Issues identified by most recent coastal defence planning
- Changes in legislation (e.g. the EU Directives, guidance with respect to the WFD)
- Changes in national flood and coastal defence planning requirements (e.g. the need to consider 100 year timescales in future planning, modifications to economic evaluation criteria etc.)
- The emerging thinking on Integrated Coastal Zone Management.

The period between the development of SMP1 and SMP2 has been one of rapid change. With the manner in which the SMP2 has now been organised and the further understanding that has been developed, shoreline management has to be seen as an ongoing process providing a platform for more local decision making. The review undertaken by this SMP2 has resulted in changes to the SMP1 policy options for a significant number of policy units. Chapter 5 provides a summary and overview of the SMP2 preferred plan and policy option choices. This provides a direct comparison of SMP1 and SMP2 policy so that where the policy option has changed, this can be clearly recognised. The discussion around policy option development, including any changes from SMP1 to SMP2 is provided within the discussion and detailed policy development in Chapter 4.

It is anticipated that subsequent reviews may be undertaken in 10 years time. This timescale would ultimately be driven by the scale in change on the coast itself.

### 1.3.2 Review and Development Procedure

The CSG for this sub-cell comprises representatives from the operating authority in Cornwall and on the Isles of Scilly and five associate partners.

The operating authorities include; Cornwall Council (Lead Authority), the Council of the Isles of Scilly, and the Environment Agency. Torridge District Council (North Devon) has also been consulted as an operating authority, as the plan covers a small section of the North Devon coastline from Morwenstow to Hartland Point. The associate partners include Natural England (NE), National Trust (NT), and English Heritage (EH). Together with Royal Haskoning, the CSG have managed the necessary stages of the SMP2 process to produce this management plan.

The SMP development process has sought involvement from around 700 organisations or individuals, with principal periods of consultation being conducted during April and May 2009 and November and December 2009. Public consultation on the draft Plan was undertaken over the period between February 2010 and May 2010. Following adoption of the Plan by the operating authorities and endorsement of the process by the associate partners, the SMP2 was signed-off by the Environment Agency Regional Director on behalf of Defra on 24<sup>th</sup> December 2010.

The main activities in producing the SMP have been:

- Development and analysis of issues and objectives for various locations, assets and themes.
- Thematic reviews, reporting upon human, historic and natural environmental features and issues, evaluating these to determine relative values of the coast.
- Analysis of coastal processes and coastal evolution for baseline cases of not defending and continuing to defend as at present.
- Agreement of objectives with the CSG, EMF and through public consultation, and from this, determining possible policy option scenarios.
- Development of policy option scenarios which consider different approaches to future shoreline management.
- Examination of the coastal evolution in response to these scenarios and assessment of the implications for the human, historic and natural environment.
- Determination of the preferred plan and policies through review with the CSG, prior to compiling the SMP draft document.
- Public consultation on the proposed plan and policies.
- Consideration of responses, including those from the National Quality (Peer) Review Group, and finalising the SMP and Action Plan.
- Dissemination of the findings and policy options contained within the Plan.
- Adoption of the SMP2 by the coastal operating authorities (local authorities and the Environment Agency) and endorsement of the process by the South West Flood and Coastal Erosion Risk Committee, Natural England and English Heritage.
- Sign-off by the Environment Agency Regional Director on behalf of Defra.