

# **Appendix A**

## **SMP development**

## Appendix A Contents

	Page
A1 Introduction	1
A2 SMP tasks	2
A2.1 Stage 1: Scope the SMP	2
A2.1.1 Tasks based on SMP guidance	2
A2.1.2 Additional activities	2
A2.2 Stage 2: Assessments to support policy development	4
A2.2.1 Baseline understanding of coastal behaviour and dynamics	4
A2.2.2 Develop baseline scenarios	7
A2.2.3 Define features, benefits and issues	7
A2.2.4 Define and assess objectives	8
A2.2.5 Identify flood and erosion risk	8
A2.2.6 Additional activities	8
A2.3 Stage 3: Develop policy	9
A2.3.1 Assess policy packages	11
A2.3.2 Identify preferred policy packages	11
A2.3.3 Confirm preferred scenario	12
A2.3.4 Prepare draft SMP document	13
A2.4 Stage 4: Public consultation	13
A2.5 Stage 5: Finalise plan	13
A2.6 Stage 6: Disseminate plan	13

### List of figures

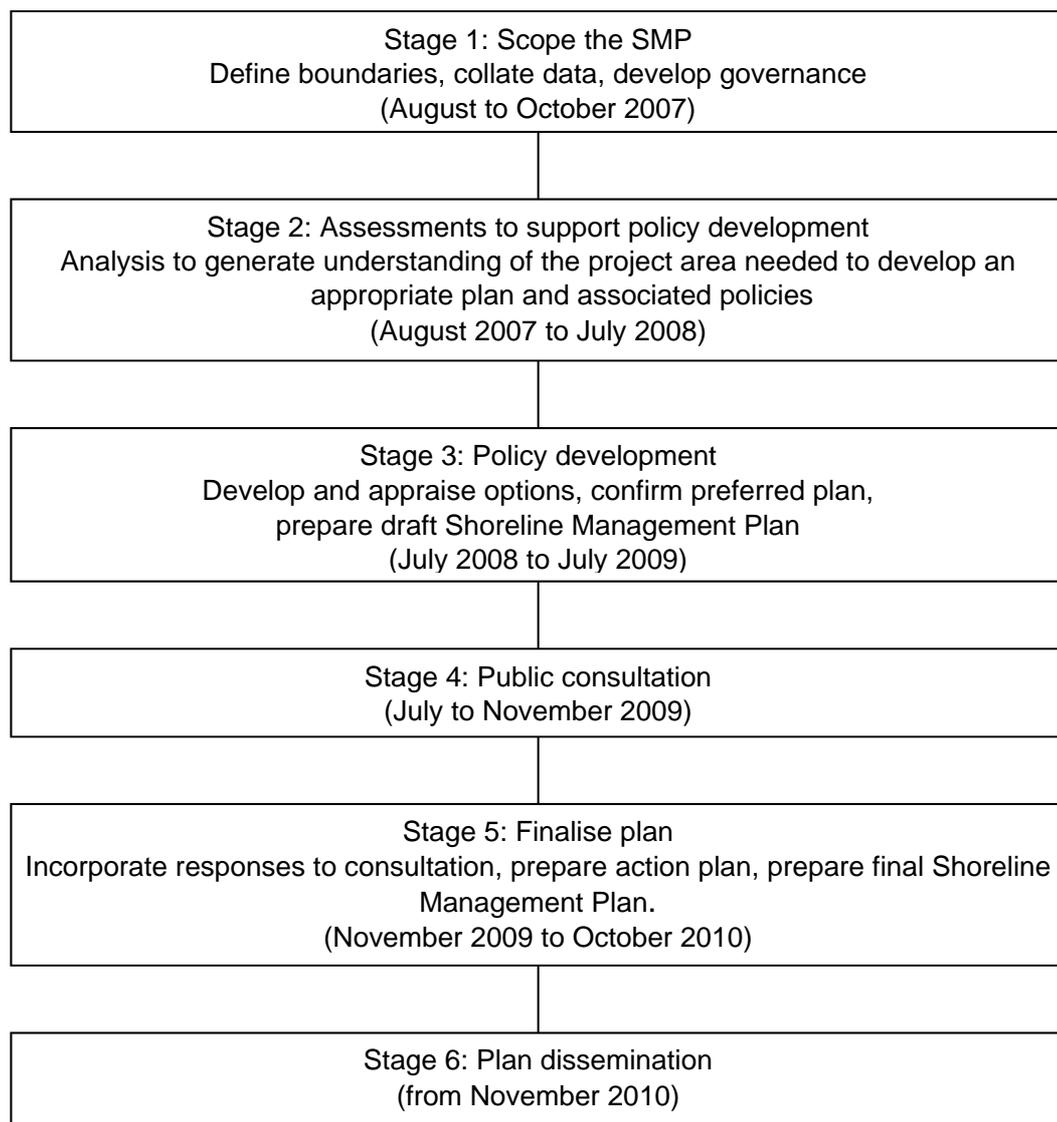
A1.1	SMP process chart	1
A2.1	North Norfolk SMP extranet homepage	5
A2.2	Stage 2 overview	6
A2.3	Stage 3 tasks and relevant appendices	11
A2.4	Policy package assessment	13

## A1 Introduction

The aim of appendix A is to set out the process of developing the SMP with reference to the guidance provided by Defra (Shoreline Management Plan guidance, 2006). The following appendices give more information about the details and results of the SMP process.

There are six main SMP stages in developing the SMP.

**Figure A1.1 SMP process chart**



The flow chart in figure A1.1 shows the overall structure of the SMP process. The guidance distinguishes a number of tasks for each stage. In general, the development of North Norfolk SMP has followed this structure, with a few adaptations and additions to capture the North Norfolk SMP's individual characteristics. The additional activities are described for each stage.

## **A2 SMP tasks**

### **A2.1 Stage 1: Scope the SMP**

#### **A2.1.1 Tasks based on SMP guidance**

This first stage of the SMP consists of five tasks aimed to start and define the process, including consulting and collating data.

##### Task 1.1 Start SMP

This task consisted of establishing the governance of the SMP by setting up the Client Steering Group and Elected Members' Forum (as described in section 1 of the draft SMP and appendix B) and determining the approach and scope of work.

##### Task 1.2 Define SMP

This task included identifying and confirming the geographical boundaries for the SMP, as described in section 1.2 of the main document.

##### Task 1.3 Define external engagement

External engagement was a continuous process throughout the development of the SMP. More details are in appendix B.

##### Task 1.4 Collect data

The main activities for this task were to start data collection and obtain information for the SMP. These data are collated by a data management tool in geodatabase format that allows easy and structured organisation of data to provide a quick reference tool for subsequent tasks. The database is an interactive way of allowing the person using it to interact with the data used to develop the SMP. The user will be able to view all the data about the SMP area geographically. Information about this database is available in appendix I. The collated data were reviewed for coverage, completeness and accuracy.

Also, a bibliographic database was developed to record, store and track all incoming documents relating to the North Norfolk SMP2 project.

##### Task 1.5 Additional investigations

The aim of this task was to undertake any further studies that would provide necessary information for the review of the SMP. Although there were gaps and some uncertainties in knowledge, there was enough information available to develop the second Shoreline Management Plan for north Norfolk.

#### **A2.1.2 Additional activities**

As well as the tasks identified in the SMP guidance, there are also some additional tasks that are integrated into the process to provide a more

detailed understanding of the area to help with the policy decision process. In brief, these are as follows:

#### Characterisation study

This is a baseline understanding of the main processes and environmental values of the area. It was undertaken by carrying out a review of SMP1 and other studies. Information gathered from this task was then fed into the theme review (appendix D) and also into the baselines for the Strategic Environmental Assessment (SEA) and the Appropriate Assessment (AA).

#### Review of monitoring data

A review of the Environment Agency beach monitoring data and the coastal trends analysis of East Anglia (Environment Agency, 2007). This has been added into tasks such as the coastal processes task (appendix C).

#### Risk workshop

Risk workshops were held with the CSG at the start of the process, and at the start of stage 3, to identify the critical factors that could influence the development and delivery of the SMP. By recognising these risks early in the SMP process and updating this at a critical stage, efforts could be made to reduce them.

As a result of the risk workshop during the first CSG meeting, a risk register was established. This lists all the risks, establishes whether the risk is high, medium or low and states how urgent the risk is. The full risk register was then further developed into a risk action plan listing the actions that each of the three main parties (EMF/CSG, lead authority (Environment Agency) and consultant) have to carry out to manage the highlighted risks. This risk action plan was used on a day-to-day basis. It became a standard agenda item in progress meetings and with the Client Steering Group and Elected Members' Forum. It consisted of the following actions:

- avoid absences at key meetings
- involve appropriate people
- agree and clarify objectives and make them accessible
- be aware of data required for SMP
- raise profile of SMP within each organisation
- co-ordinate SMPs with local development frameworks, Habitats directive and Water Framework directive
- produce, develop and implement a clear and structured communication strategy and engagement plan.

The actions for the Environment Agency and Royal Haskoning and the full risk register are available on request.

### Extranet

An extranet site was set up to provide an easy way for the members of the Client Steering Group and Elected Members' Forum to access and review documents as they were being produced. This site is found under [www.north-norfolk-smp2.co.uk](http://www.north-norfolk-smp2.co.uk) and the front page is illustrated in figure A2.1.

### Update of Rapid Coastal Zone Assessment Survey (RCZAS)

The RCZAS for Norfolk needed updating in conjunction with English Heritage to make it suitable for using with the SMP. This meant deciding the importance and risk for the archaeological records that the previous RCZAS provided, assessing potential finds and identifying research properties. This information fed into the theme review, the data management tool and the objectives report.

## **A2.2 Stage 2: Assessments to support policy development**

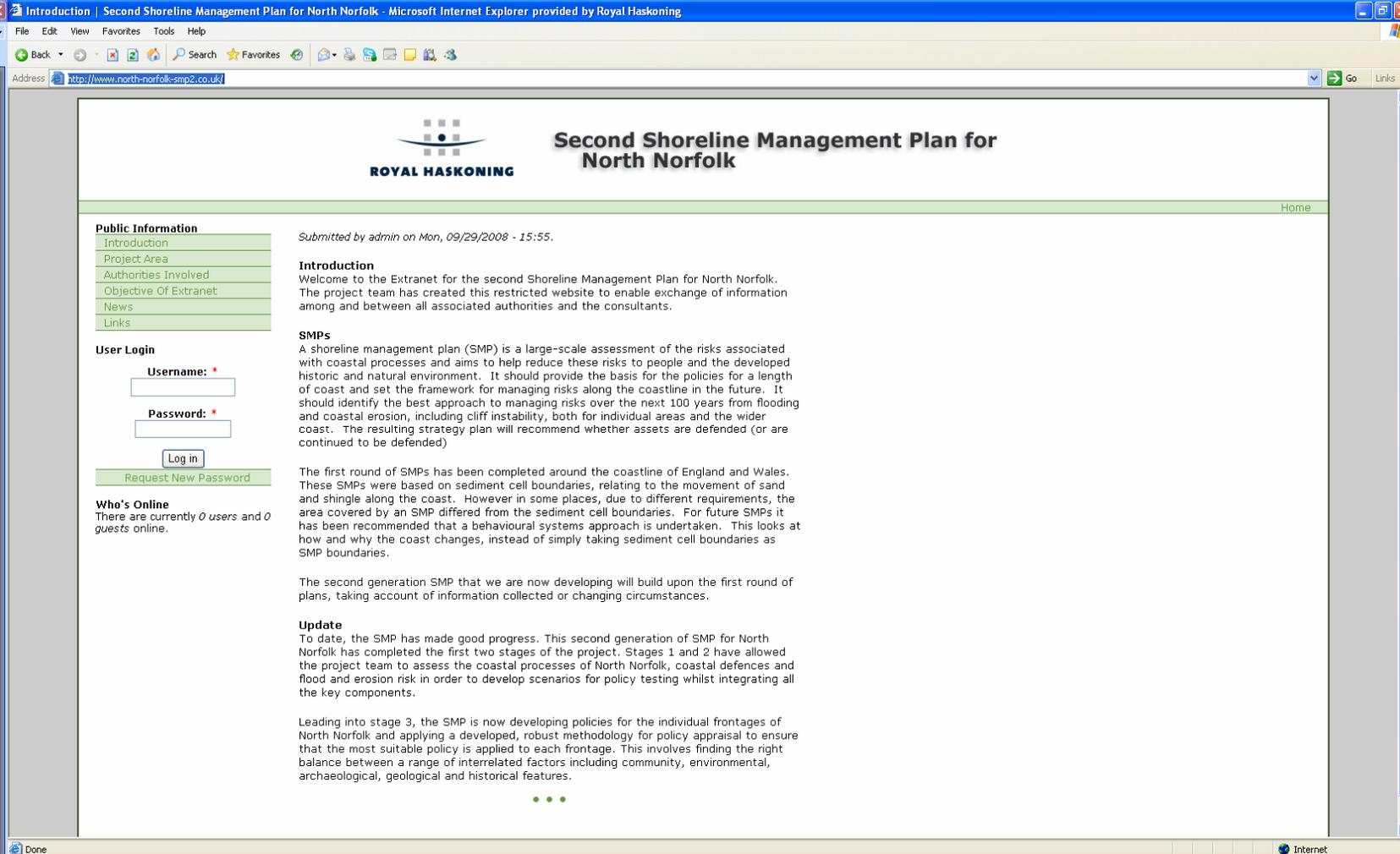
Stage 2 aims to develop the understanding of the shoreline that is needed to develop shoreline management policy. The tasks include both technical elements (coastal processes and defences) and land use and environment. The guidance identifies a number of tasks that are related to each other, as illustrated in figure A2.2. As well as developing this understanding, stage 2 has also produced the objectives (or policy appraisal criteria) used in stage 3 to select the preferred policies.

### **A2.2.1 Baseline understanding of coastal behaviour and dynamics**

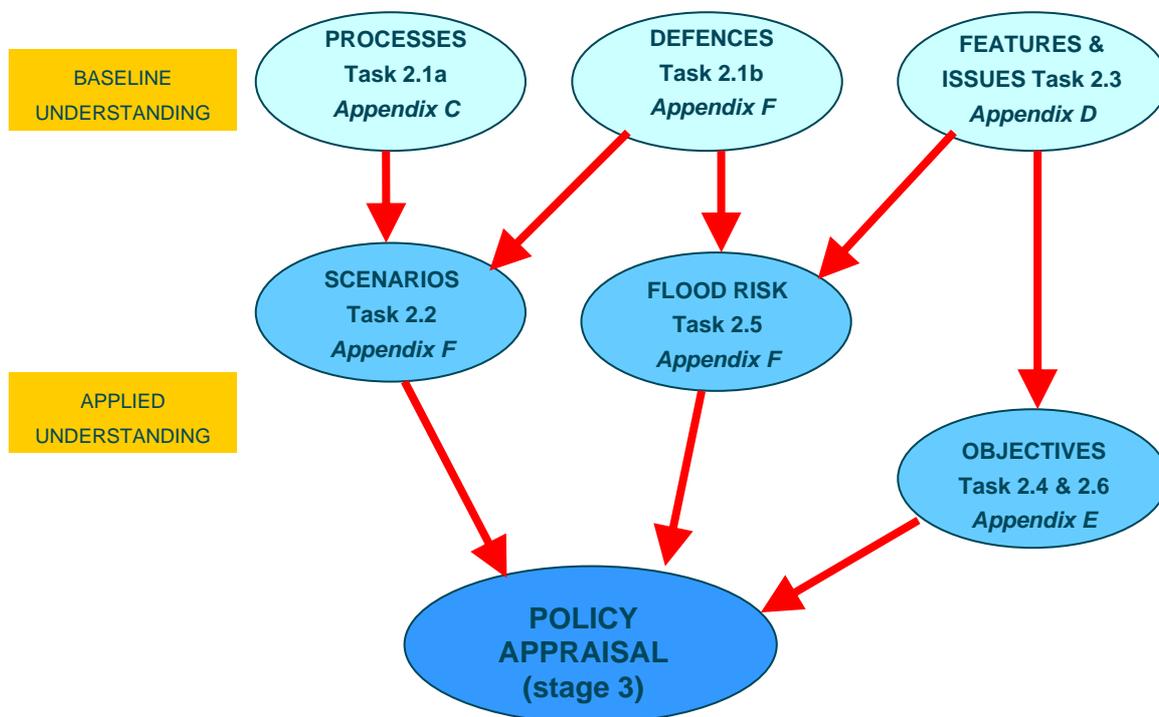
The first part of this task built on the initial understanding of physical processes and issues developed as part of a coastal characterisation undertaken as an additional activity during stage 1 (see section A2.1.2).

A detailed review of all existing information was carried out. This included information contained in the SMP1, any studies and strategies completed since SMP1, such as Futurecoast, North Norfolk's Coastal Habitat Management Plan (CHaMP), the Southern North Sea Sediment Transport Study (SNSSTS) and ongoing monitoring data received from the Environment Agency, including aerial photos commissioned from Mike Page. This allowed a detailed understanding to be gained of the historic and ongoing processes influencing the development of the shoreline and of how the coast is expected to change in the future. The review also allowed any uncertainties in the predicted evolution to be identified. The assessment was based on the results and/or conclusions from existing studies rather than revisiting base information.

Figure A2.1 North Norfolk SMP extranet homepage



**Figure A2.2 Stage 2 overview**



The outputs from this task are concise descriptions of processes and evolution and associated maps and/or tables indicating expected directions and rates of change. These outputs can be found in chapter 3 of appendix C of the SMP.

Data on the condition of the coastal defences were obtained from the National Flood and Coastal Defence Database (NFCDD) as part of the data collection carried out in stage 1. The residual life of each defence structure under a scenario of no active intervention was determined as part of the second stage of this task based on the condition grade. The relevant up-to-date guidance on defence condition and deterioration, and the history of defence practices for the area, was considered. Concise tables were produced that defined the residual life of the defences and how this is expected to change with time. The information gathered for this task is presented in chapter 2 of appendix F of the SMP.

### **A2.2.2 Develop baseline scenarios**

This task aimed to provide an appreciation of how the shoreline is behaving and how this behaviour is influenced by coastal management. These assessments were developed from the specialist knowledge developed in the coastal processes task. They were used to determine flood and coastal erosion risks and to develop and appraise policy scenarios as part of stage 3 of the SMP. There were two activities in this task: baseline response and mapping of predicted shoreline change, with both undertaken for the two scenarios of no active intervention (NAI) and with present management (WPM). NAI was assessed based on the timing of failure of the existing defences as determined in the assess coastal defences task. For WPM the assessment was based on the assumption that the same standard of service would be provided by the defences throughout the SMP period. This therefore assumes that the defences will not deteriorate significantly. These assessments also addressed climate change as far as possible. Predicted results were mapped for the short, medium and long term for both scenarios. Both the baseline scenarios and the accompanying maps are included in chapter 3 of appendix F of the SMP.

### **A2.2.3 Define features, benefits and issues**

This task is also referred to as the 'theme review'. It aims to develop a clear understanding of the key features along the coast and why these are important to stakeholders. The review is used as a basis for developing the policy appraisal criteria and options. This task identifies the features and issues throughout the SMP area to highlight the benefits from these features. A feature is defined as something tangible that provides a service to, or benefits, society in some way. The importance of the feature is explained in terms of the benefit it provides, who benefits from it and the scale of its importance (that is, local, national, international and whether it is rare at any scale). The potential effect of coastal change on the value of the feature is also considered and so is the potential for substitution of the feature.

This task uses existing information and data provided by the stakeholder engagement process. The features are identified and valued and issues described. The themes covered by the SMP are listed below:

- physical features
- the natural environment
- historic environment and culture
- built environment
- recreation
- commercial activities
- hazards

A key part of developing this task was to produce cross-section graphics. These graphics are an innovative way of visualising the findings from the

theme review. Compared to the tabular format suggested in the guidance (which was also produced), the graphics allow better identification of interaction between features, which is an important element of the north Norfolk shoreline. The visual nature of the graphics made it easier for others to provide feedback on the SMP's initial findings. This increases their involvement and leads to improved understanding of the features and issues, helping to develop the SMP.

The results of this task, including the tables and graphics, are in appendix D. The graphics are also included in the main SMP document.

#### **A2.2.4 Define and assess objectives**

This task aimed to set and assess shoreline management objectives that guide the SMP policy appraisal process. The SMP guidance suggests an approach in which objectives are developed for each feature identified in the theme review. These feature-level objectives are then assessed and prioritised to develop them into appraisal criteria.

For this SMP, an alternative approach was developed, complementing the bottom-up feature-level approach with a top-down approach based on an agreed set of high-level principles as listed in section 1.3 of the main SMP document. This combined approach, developed in close cooperation with the CSG and EMF, has then produced the policy appraisal criteria and associated indicators used for the appraisal. The appraisal criteria are fed into stage 3 of the process for policy appraisal, as illustrated in figure A2.2.

The approach, the resulting appraisal criteria and the detailed results of the appraisal are described in section 2 of appendix E.

#### **A2.2.5 Identify flood and erosion risk**

The final task that fed into stage 3 was to identify flood and erosion risks for the SMP frontage and hinterland. This task looks in more detail at the assets and features identified during the theme review and the extent that they are at risk under no active intervention. The main aim of the task is to develop an overall understanding of how flood and erosion risk varies in space (within the SMP area) and in time (from epoch 1 to epoch 3). This then fed into the appraisal, through identifying the features at risk for each policy package and each epoch.

#### **A2.2.6 Additional activities**

##### Testing baseline scenarios against objectives

This was an additional task based on the results from the baseline scenarios task. This activity gave a 'dry-run' of the assessment process against the objectives, providing an insight into the extremes of policy performance. It created a more structured appraisal tool that has led to the definition of the

policy scenarios. An overview of this task, and how the results have been applied, is in appendix E.

#### Non-technical summary of the draft SMP

Box 3.1 of the SMP guidance indicates that it may be appropriate to prepare a non-technical summary of the draft SMP for the public consultation. This additional task relates to preparing the non-technical summary, including communication with Environment Agency and CSG, assuming that the summary will be integrated into the draft SMP report. This is a stand-alone document that is separate from the main draft SMP.

#### Sustainability appraisal (signposting)

The sustainability appraisal includes environmental, social and economic aspects. The environmental aspects are similar to the contents of the Strategic Environmental Assessment (SEA). This task concerned the additional activities needed to clarify the link between SEA and SA, explicitly annotating how and where the SMP fulfils the SA requirements. This document is in appendix J.

#### Water Framework Directive – retrospective assessment

During the SMP process the decision was made at national level to carry out an assessment of the effect of the SMP policies on the objectives developed in the Anglian River Basin Management Plan based on the Water Framework Directive. This document is in appendix K.

#### Strategic Environmental Assessment (SEA)

A stand-alone SEA document was prepared for North Norfolk SMP. This is characterised by an approach in five stages (A to E), in line with SEA guidance and incorporated into the SMP process. Section 1.5 of the main SMP document explains the relationship with the SMP. The SEA is provided as appendix L.

#### Appropriate Assessment (AA)

The Habitats Regulations Assessment (Appropriate Assessment) was produced in response to Defra guidance on providing an AA for SMPs. A scoping report was produced for discussion with Natural England. Based on that, the actual assessment has been carried out alongside policy appraisal during stage 3. This has been used as an active policy evaluation tool, with policy options and scenarios being considered with regard to their effects on the integrity of international sites. Section 1.5 of the main SMP document explains the relationship with the SMP. The AA is in appendix M.

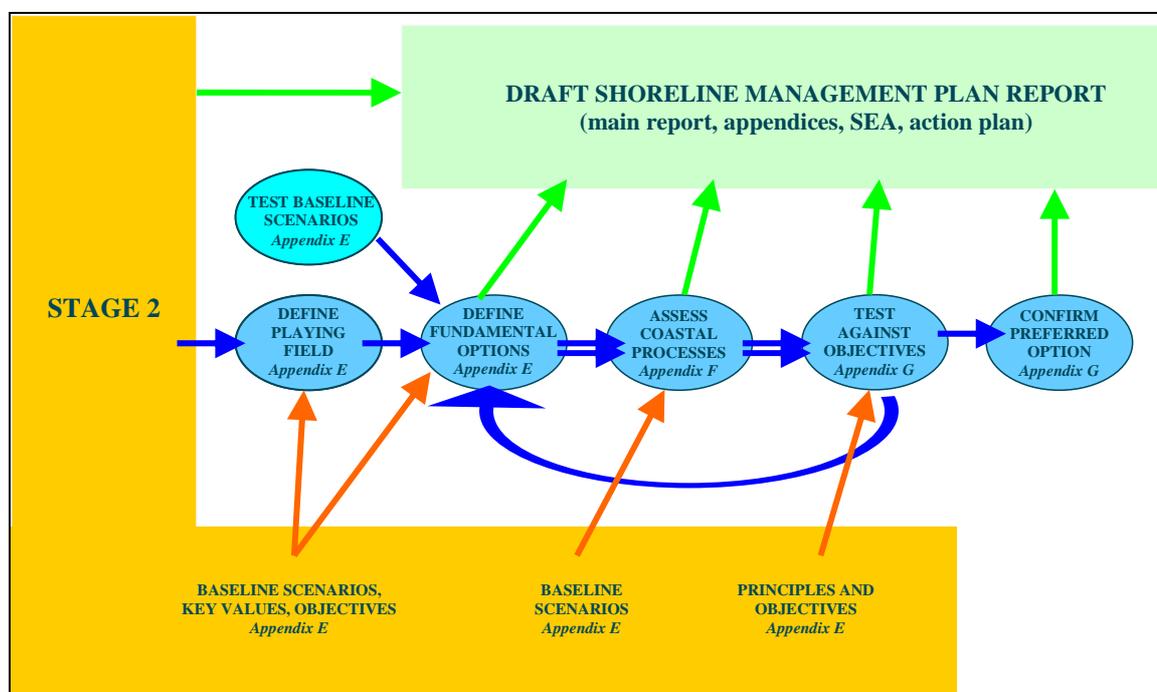
### **A2.3 Stage 3: Develop policy**

The stage 3 tasks have taken the information collated in stage 2 to develop policy options for the SMP, appraise the options and define the preferred option. The order of the tasks is largely linear (instead of the parallel nature of stage 2), with a strongly iterative character to allow full and effective CSG

and EMF involvement. The sequence of the tasks has been set up to facilitate the complex decisions that the SMP has to make, by gradually converging on the key decisions to be made and ensuring that the detailed appraisal only covers realistic options appropriate to the high level of SMPs. The results of the tasks, with a focus on the preferred plan and policies, are then fed into the draft SMP document, which is prepared as part of one of the final tasks of stage 3. This process is illustrated in figure A2.1.

The development of the North Norfolk SMP has largely followed the approach as set out in the SMP guidance, with a few deviations and additions as discussed below.

**Figure A2.3 Stage 3 tasks and relevant appendices**



### Define policy scenarios

These tasks were based on the understanding developed in stage 2. They benefited from the assessment of ‘baseline scenarios’ against the objectives. This has been described in section 2.2.6.

The subsequent aim of this task was to identify and define the ‘options’ (at policy level) that need to be appraised. It consisted of two activities: first to ‘define the playing field’, followed by defining ‘policy packages’ (known as scenarios in the guidance) that appropriately cover this playing field. These tasks are described in more detail in chapter 4 of appendix E.

### Defining the playing field

In line with the SMP guidance we have identified key policy drivers. These are features that may have an overriding influence on policy selection. The

knowledge gained in stage 2 was applied along the SMP shoreline to identify for each of the four SMP policies whether they are obvious, realistic or unrealistic through the short, medium and long term. The results are described in chapter 4 of appendix E. Identifying the playing field has helped to streamline the SMP process by focusing the subsequent steps on the key issues and by gradually developing an understanding among all involved of the decisions needed of the SMP.

#### Develop options for appraisal

The next step identified and defined the options for the intent of management ('IoM options') that cover the whole playing field and that represent the high-level decisions the SMP needs to make.

During this stage, it was important to find the right balance between the shorter term (epoch 1) with its tangible consequences and the longer term that is more linked to the intent of management (epoch 3). The shorter term policies are directly relevant to the processes and to the stakeholders, based on existing knowledge and information.

### **A2.3.1 Assess policy packages**

This task assesses the intent of management options developed as part of the previous task. The first sub-task is to assess how the shoreline will respond to the options considered based on the alignments taken from policy packages (figure A2.2). This task allows some fine-tuning of the options. It is followed by an assessment of how the options perform against the principles, through appraisal against the criteria and indicators.

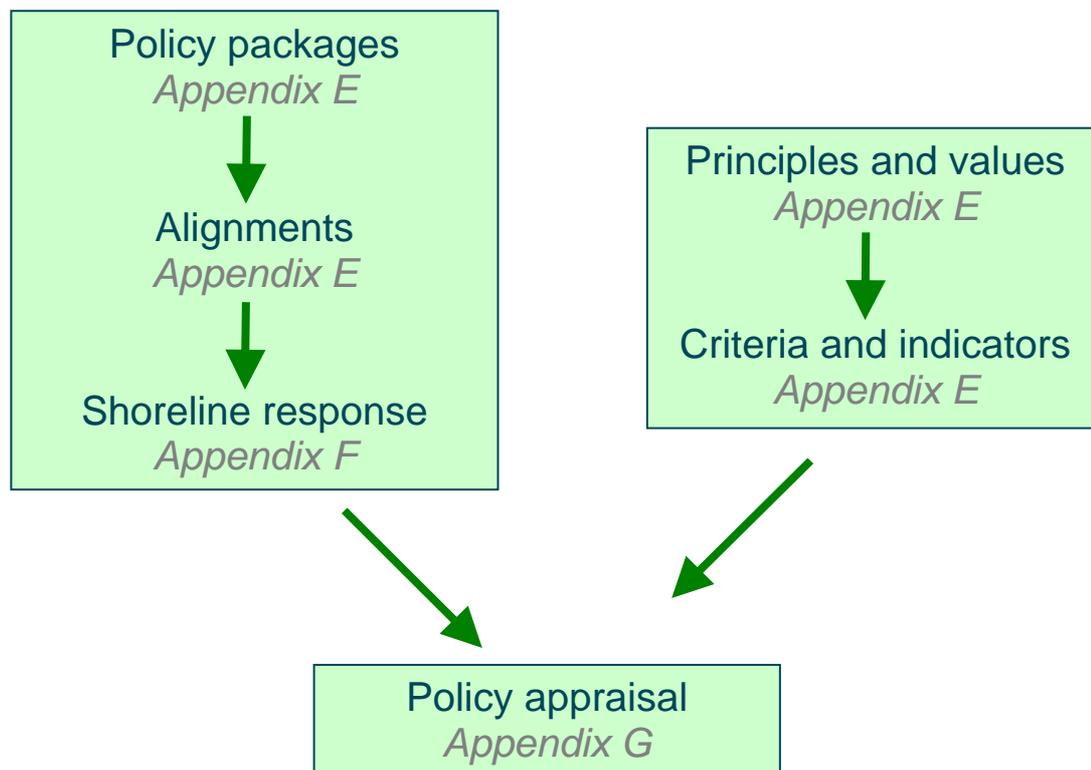
The appraisal was carried out in parallel with the Appropriate Assessment (see section 2.2.6) to make sure that the legal requirements of the Habitats Regulations were taken into account. As well as the requirements in the guidance, the appraisal included an initial assessment of economic viability and a qualitative sensitivity analysis.

### **A2.3.2 Identify preferred policy packages**

Identifying the preferred options was an iterative process with assessing the policy scenarios task and fully involved the CSG and EMF. The technical work in that task led to a tabular and graphical overview of how each option performs against each principle for each epoch (see section 5 of appendix E). This technical appraisal did not by itself lead to a preferred option as it was felt that the right balance of the features can only be determined through CSG and EMF discussion. A review was first carried out by the CSG. Following this review, and before the review by the EMF, the preferred packages were fine-tuned. Involving the EMF in the final approval stage allows the local community to be fairly represented and achieves the best solutions for the entire SMP area and its communities. The preferred plan is

described in sections 3 and 4 of the main SMP document. The appraisal results of the preferred plan are included in appendix G.

**Figure A2.4 Policy package assessment**



### A2.3.3 Confirm preferred scenario

The preferred plan and policies were selected based on appraisal against the principles through the criteria. In line with the SMP guidance, the preferred plan was then confirmed by assessing the economic viability and through sensitivity testing.

The economic viability of the preferred scenario was assessed in terms of whether it is not viable, marginally viable or clearly viable using a simplified approach in line with Defra's project appraisal guidance. The economic assessment for the SMP is provided in detail in appendix H.

This task also includes a sensitivity analysis. This identifies the main sources of uncertainty and assesses whether the preferred plan and policies are robust under different assumptions for these uncertainties. The outcomes have played an essential role in developing and appraising policies.

#### **A2.3.4 Prepare draft SMP document**

The main objective of this task is to draft the main document and its appendices. The document was developed through an iterative process and with full involvement of the CSG and EMF. An annotated table of contents was first produced and agreed and the document was developed based on that.

#### **A2.4 Stage 4: Public consultation**

The public consultation stage aims to make sure that all organisations, communities, businesses and the general public have the opportunity to review and comment on the draft SMP. In the early stages of the plan, it is up to the CSG and EMF members to circulate the documents to a wider public audience if they feel it is necessary. Throughout the SMP process, there have also been opportunities for other people and organisations to comment at meetings organised by the partners alongside public presentations (see appendix B).

#### **A2.5 Stage 5: Finalise plan**

Finalising the plan following public consultation is the opportunity to incorporate any changes agreed by the CSG based on opinions and comments made during the public consultation period.

A consultation report was produced as a working document for the CSG, summarising the responses and identifying the key issues that would require decisions by CSG and EMF. This was discussed in the CSG and the CSG's steer was then used to prepare a first draft final set of documents for discussion and confirmation by CSG and EMF. The results of this discussion were then incorporated in the final set of documents.

The final stage also includes preparing the final action plan as part of the main document (section 5).

#### **A2.6 Stage 6: Disseminate plan**

Following adoption by the partner authorities, the SMP will be published and made accessible to the public alongside an action plan needed for the plan to be fulfilled.

The partner authorities will continue to work together to implement the policies and the action plan and prepare for the next planned review of the SMP in five to 10 years' time.