

## **Appendix A SMP development**

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## 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 other appendices provide information about the details and results of the SMP process.

There are six main stages in developing a 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 the Wash SMP has followed this structure, with a few changes and additions to capture the Wash 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**

The first stage of the SMP consists of five tasks, aimed to start and define the process, including consultation and data collation.

##### Task 1.1 Initiate SMP

This task consisted of establishing the governance of the SMP by setting up the Client Steering Group (CSG) and Elected Members Forum (EMF), as described in section 1.3 of the main document, and deciding the approach and scope of work.

##### Task 1.2 Define the 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 stakeholder engagement

Stakeholder engagement was a continual process throughout the development of the SMP. More details about this are in **appendix B**.

##### Task 1.4 Data collection

The main activities for this task were to start the data collection process 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 user to interact with the data used to develop the SMP. The user will be able to view all the data in the geographical context of the SMP area. Information about this database is in **appendix I**. The collated data were reviewed for coverage, completeness and accuracy.

Also, a bibliographic database was developed in order to record, store and track all incoming documents for the Wash SMP2 project.

##### Task 1.5 Additional investigations

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

## A2.1.2 Additional activities

As well as the above tasks that are identified in the SMP guidance, there are also a number of other tasks 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 done by carrying out a review of SMP1 and other studies as detailed in section A2.1. Information gathered from this task was then fed into the theme review (task 2.3 - **appendix D**) and also into the baselines for the Strategic Environmental Assessment (SEA) and the Appropriate Assessment (AA).

### Review of monitoring data

A review was undertaken of the Environment Agency beach monitoring data and the Coastal Trends Analysis of the Anglian Region (Environment Agency, 2007). This has been included in tasks such as the coastal processes in task 2.1 (**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 developing and delivering the SMP. By recognising these risks early in the SMP process and updating them 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 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 daily basis and was made a standard agenda item in progress meetings with the Client Steering Group and Elected Members' Forum. It consisted of the following actions:

- Allocate adequate resources and attend meetings.
- Develop an appropriate communication strategy.
- Have an active involvement in SMP development (especially policy development).
- Client Steering Group to communicate effectively with Elected Members' Forum members.
- Monitor changes in national, regional and local priorities.
- Co-ordinate with Habitats Regulations and with Lincolnshire's Coastal Study.

- Balance quality of SMP and pressure of deadline for completion.

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

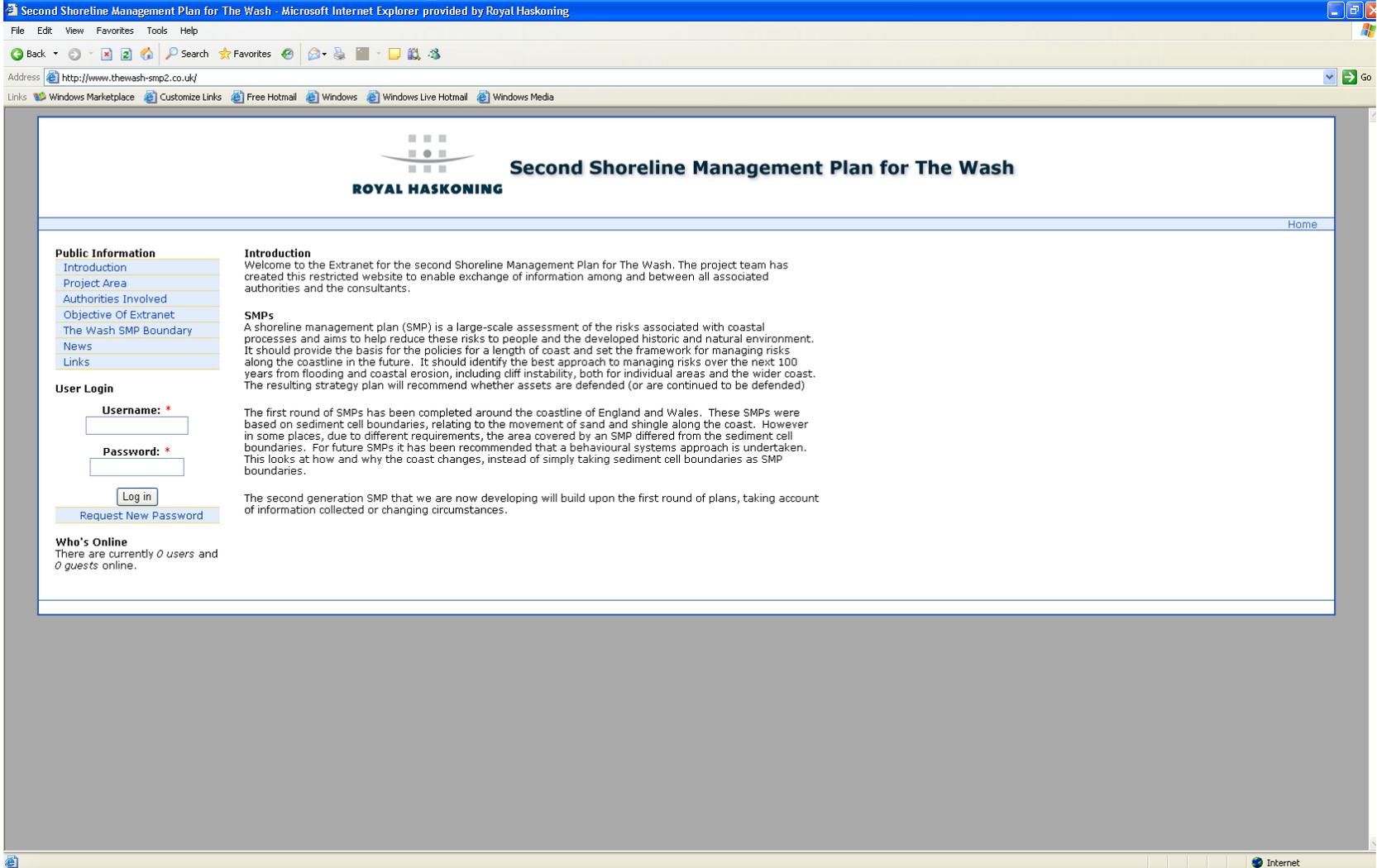
#### Extranet

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

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

As part of the Wash SMP project, a Rapid Coastal Zone Assessment Survey of archaeological features was produced for the Lincolnshire section of the SMP area. The existing RCZAS for the Norfolk section of the SMP area was also updated. It was necessary to update the RCZAS for Norfolk to include summary sections identifying the significance of historic environment assets so that it was more fully comparable with RCZAS for the Lincolnshire section. This involved determining the importance and risk for the archaeological records that the previous RCZAS provides, assessing the potential of the finds and identifying research properties. This information, along with data from the Yorkshire and Lincolnshire RCZAS (Gibraltar Point to Norfolk) fed into the theme review, data management tool and objectives report.

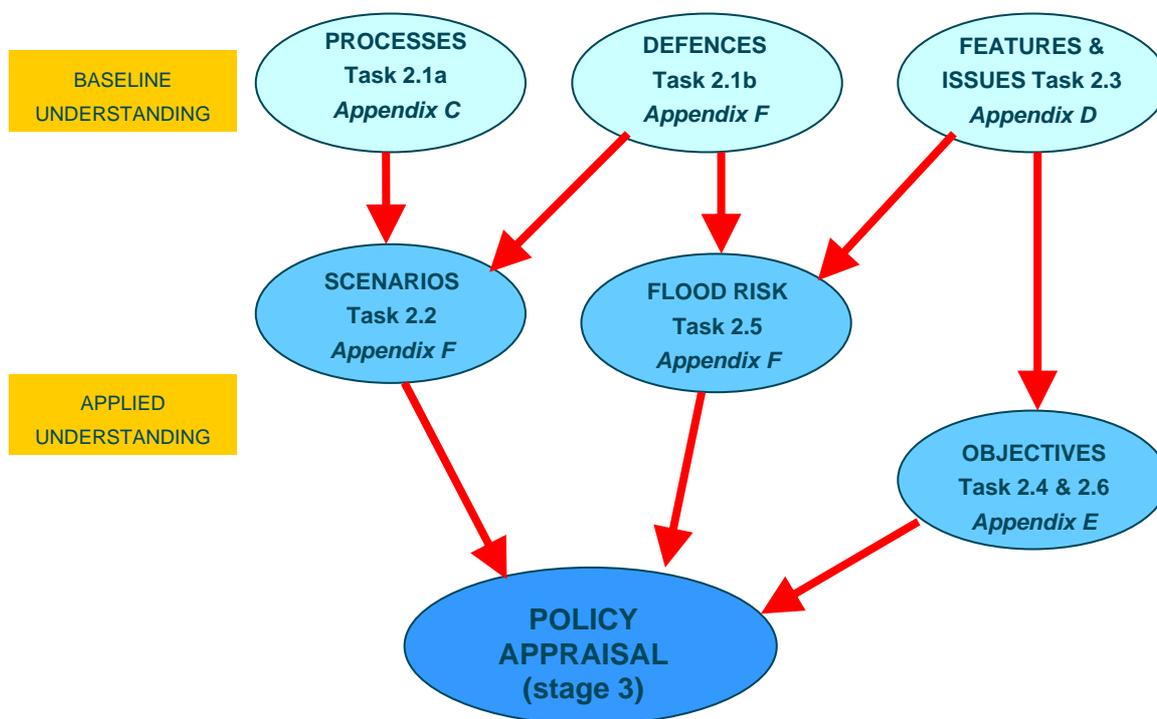
Figure A2.1 Wash SMP extranet homepage



## 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), land use and environment. The guidance identifies a number of tasks that are related as shown in figure A2.2. As well as developing understanding, stage 2 has also produced the objectives (or policy appraisal criteria) used in stage 3 to select the preferred policies.

Figure A2.2 Stage 2 overview



### A2.2.1 Baseline understanding of coastal behaviour and dynamics (task 2.1)

The first part of this task (task 2.1a) built on the initial understanding of physical processes and issues developed as part of a coastal characterisation that was undertaken as an additional activity during stage 1 (see section A3.1.1).

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, the Southern North Sea Sediment Transport Study (SNSSTS) and ongoing monitoring data received from the Environment Agency. 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 looking again at base information.

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 about the condition of the coastal defences was obtained from the National Flood and Coastal Defence Database (NFCDD) as part of the data collection carried out during 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 (task 2.1b) based on the condition grade. The relevant up-to-date guidance about 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 over time. The information gathered for this task is presented in chapter 2 of **appendix F** of the SMP.

#### A2.2.2 Develop baseline scenarios (task 2.2)

Task 2.2, developing the baseline scenarios, aimed to provide an appreciation of how the shoreline is behaving and how this behaviour is influenced by coastal management. These assessments were developed based on the specialist knowledge developed in task 2.1 and were used to determine flooding 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 task 2.1b. For WPM the assessment was based on the assumption that the same standard of service would be provided by the defences throughout the SMP plan 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 in chapter 3 of **appendix F** of the SMP.

#### A2.2.3 Define features, benefits and issues (task 2.3)

This task, also referred to as the theme review, aims to develop a clear understanding of the key features along the coast and why these are important. The review is used as a basis for developing 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, as 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:

- physical features;
- the environment;
- heritage and culture;
- hard assets;
- recreation;
- commercial activities; and
- hazards.

A key part of developing this task was developing the cross-section graphics. These graphics are a novel way of visualising the findings from the theme review. Compared to the table format prescribed in the guidance (which was also produced), the graphics allow better identification of interaction between features, which is an important element of the Wash's shoreline. The visual nature of the graphics made it easier for stakeholders to provide feedback about the SMP's initial findings, which improves their involvement and leads to improved understanding of the features and issues, making it easier 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 (tasks 2.4 and 2.6)

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, a different 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 objectives that have been used as policy appraisal criteria, as illustrated in figure A2.2.

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

#### A2.2.5 Identify flood and erosion risk (task 2.5)

The final task that fed into stage 3 is identifying flood and erosion risks for the SMP frontage and hinterland. This task looks in more detail at the assets and features identified during the thematic 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 has fed into the appraisal, through the identification of the features at risk for each policy package (i.e. the full set of policies selected for an SMP frontage for all epochs, known as scenarios in the guidance). An overview of the results of this task is in **appendix F**.

#### A2.2.6 Additional activities

##### Testing of baseline scenarios against objectives

This was an additional task based on the results from task 2.2. 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 led to defining the policy scenarios. An overview of this task and how the results have been applied is in **appendix E**.

##### Non-technical summary of 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 purpose of consultation. This additional task involved preparing a non-technical summary, including communication with Environment Agency and CSG. This is a stand-alone document.

##### Sustainability appraisal (signposting)

The sustainability appraisal (SA) includes environmental, social and economic aspects. The environmental aspects are similar to the contents of the Strategic Environmental Assessment. This task concerned the additional activities needed to clarify the link between SEA and SA and 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 River Basin Management Plan based on the Water Framework Directive. This document is in **appendix K**.

##### Strategic Environmental Assessment (SEA)

A stand-alone Strategic Environmental Assessment (SEA) document was prepared for the Wash SMP. This is in five stages (A – E), in line with SEA

guidance and incorporated in the SMP process. Section 1.5 of the main SMP document explains the relationship with the SMP. The SEA is in **appendix L**.

#### Appropriate Assessment (AA)

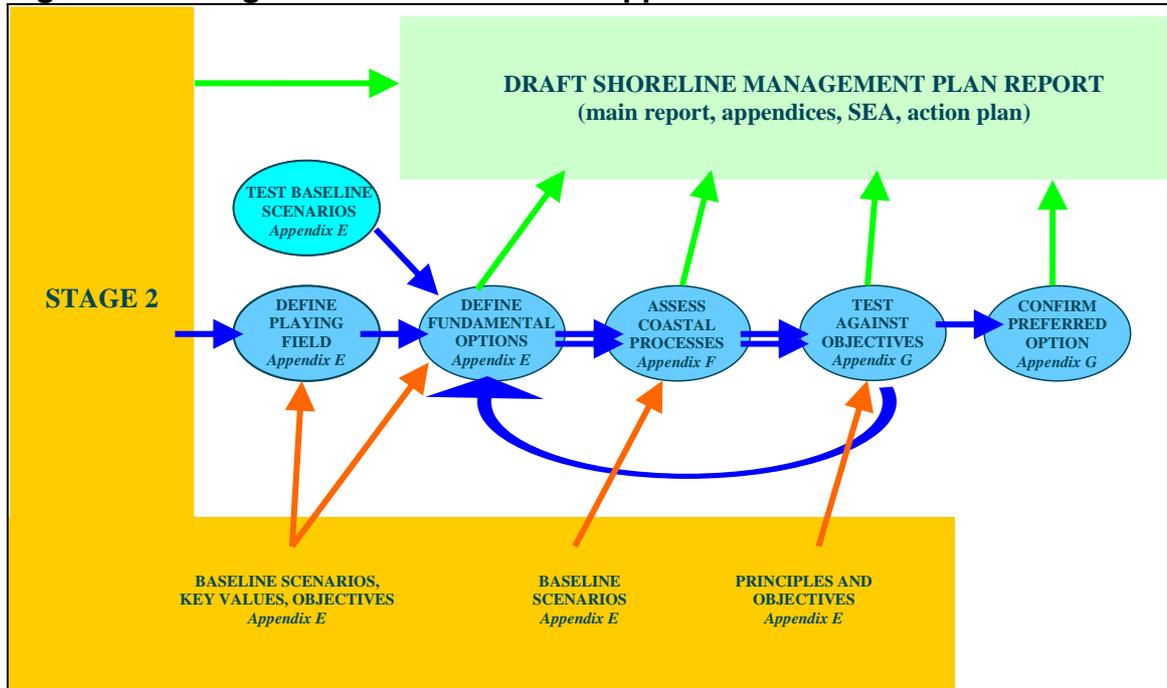
The Habitats Regulations Assessment or Appropriate Assessment was produced in response to Defra guidance on AA provision for SMPs. A scoping report was produced for discussion with Natural England. Based on that, the actual assessment has been carried out alongside policy appraisal during stage 3. This 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: Policy development**

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) and very repetitive 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 making sure 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 shown in figure A2.3.

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

**Figure A2.3 Stage 3 tasks and relevant appendix location**



### A2.3.1 Define policy scenarios (task 3.1)

These tasks were based on the understanding developed in stage 2 and benefited from the assessment of ‘baseline scenarios’ against the objectives. This has been described in section A2.2.6.

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. The first of these was to ‘define the playing field’, followed by defining ‘policy packages’ (full sets of policies selected for an SMP frontage for all epochs, known as scenarios in the guidance) that appropriately cover this playing field. These tasks were based on the understanding developed in stage 2 and benefited from the assessment of ‘baseline scenarios’ against the objectives. 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 - features that may have an overriding influence on policy selection. The knowledge gained during stage 2 was applied along the SMP shoreline to identify for each of the four SMP policies whether they are obvious, realistic or unrealistic in the short, medium and long term. This overview provides the ‘playing field’ for policy development: the boundaries within which the policies need to be found. The results are described in chapter 4 of **appendix E**. Identifying the playing field has helped to streamline the SMP process by focusing the next 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 represent the high-level decisions that 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.

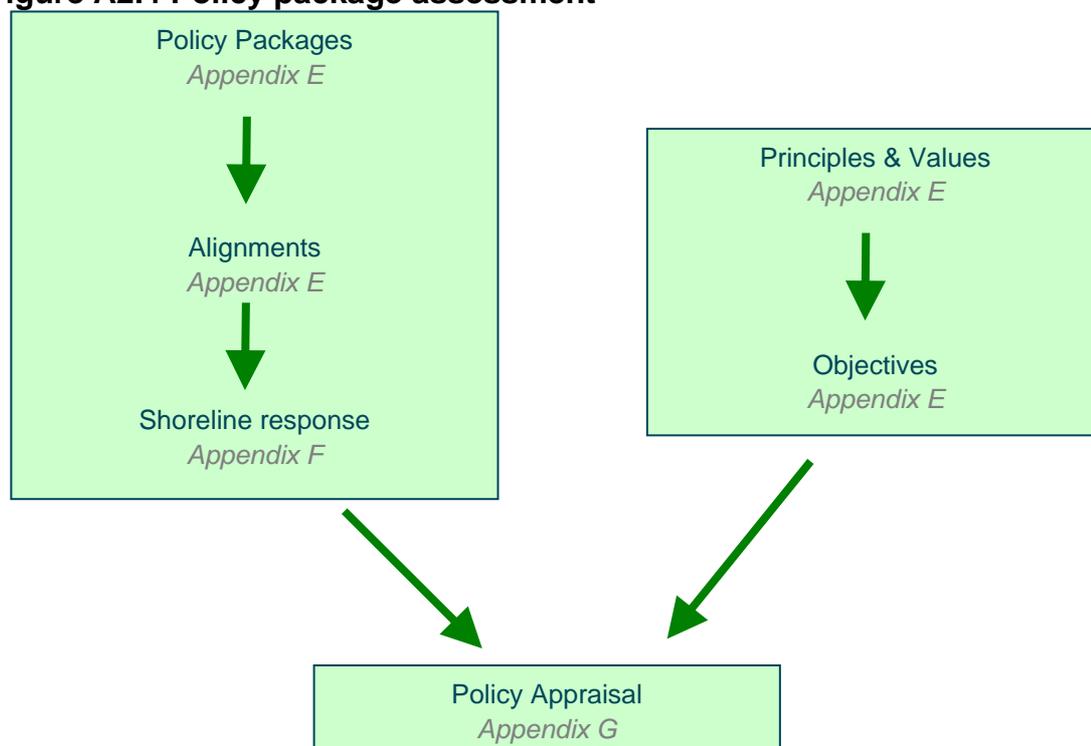
At this stage in the process, Policy Development Zones (PDZs) were identified. The SMP area consists of four zones that are relatively uniform and self contained. This means that the SMP needs to develop its plan at the level of these zones (while taking into account any interactions between the zones). For The Wash SMP, four PDZs have been identified, as listed below:

- PDZ1 – Gibraltar Point to Wolferton Creek
- PDZ2 – Wolferton Creek to south Hunstanton (up to the point where the high ground reaches the shoreline, roughly at the helter skelter located on the promenade)
- PDZ3 – Hunstanton town
- PDZ4 – Hunstanton cliffs (the undefended cliffs of Old Hunstanton)

#### A2.3.2 Policy package assessment (task 3.2)

This task assesses the intent of management options developed as part of the previous task (task 3.1). The first sub-task is to assess how the shoreline will respond to the options considered based on the alignments taken from policy packages (see section A2.3.1 and figure A2.4). This task allows some fine-tuning of the options. This task is followed by assessing how the options perform against the principles, through appraisal against the objectives.

**Figure A2.4 Policy package assessment**



The appraisal was carried out at the same time as the Appropriate Assessment (see section A2.2.6), to make sure that the legal requirements of the Habitats Regulations were taken into account. As well as the guidance requirements, the appraisal included a first assessment of economic viability and a qualitative sensitivity analysis.

### A2.3.3 Preferred policy package identification (task 3.3)

The identification of the preferred options was carried out in a repetitive process with task 3.2 and with full involvement from the CSG and EMF. The technical work in task 3.2 led to a tabular and graphical overview of how each option performs against each objective for each epoch (see section 4 of **appendix E**). This technical appraisal did not by itself lead to a preferred option, because 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, fine-tuning of the preferred packages was undertaken. Involving the EMF in the final approval stage allows the views of the local community to be fairly considered and to find the best solutions for the entire SMP area and its communities. These first two cycles of appraisal identified a number of particular issues that needed further development within the SMP to determine the draft plan. In particular, this involved the development of the intertidal area and its effect on habitats and flood defence and the issues surrounding the shingle ridge between Wolferton Creek and Hunstanton. These additional assessments are reported at a high-level (implications for

policy development) in **appendix E** and at a technical level in **appendix F**. This was followed by a further process of fine-tuning in close cooperation with the CSG and EMF, which has finally produced the draft plan described in sections 3 and 4 of the main SMP document. The appraisal results of the preferred plan are in **appendix G**.

#### A2.3.4 Confirm preferred scenario (task 3.4)

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

The economic viability of the preferred scenario was assessed in terms of whether it is not viable, marginally viable, or 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**.

The SMP guidance suggests that a sensitivity analysis of the draft plan is performed as part of task 3.4. As mentioned in section A2.3.2, a first sensitivity analysis was carried out as part of policy appraisal. This has played an essential role in developing and appraising policies, given the large role that uncertainty plays in the Wash SMP. Specific sensitivity analysis was carried out for sea level rise as part of the analysis of intertidal development, as described in **appendix F**.

#### A2.3.5 Draft SMP document preparation (task 3.5)

This task involves drafting the main document and appendices. The document was developed through an iterative process and with full involvement from CSG and EMF. An annotated table of contents was first produced and agreed. The document was then developed on that basis with a number of feedback cycles from EA, CSG and EMF.

### A2.4 Stage 4: Public consultation

The public consultation stage aims to make sure that all stakeholders 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 disseminate the documents to a wider public audience if they feel it is necessary. Throughout the SMP process, there have also been opportunities for stakeholders to comment at meetings organised by the Environment Agency alongside evening public presentations (see **appendix B**).

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

Finalising the plan following public consultation is the opportunity to incorporate any changes considered necessary by the CSG taking account of the opinions and comments made by stakeholders and the general public.

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 the preparation of the final action plan, as included in 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 for further studies that are 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 planned next review of the SMP in 5 to 10 years time.