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Shoreline management plan guidance
Volume 2: Procedures

March 2006

defra
Department for Environment
Food and Rural Affairs

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Chapter One: Introduction

Small craft at Sunderland village, Morecambe Bay

1.1 SMP guidance documents

This document is the second of two volumes providing guidance on the producing Shoreline Management Plans (SMPs). It is aimed at people responsible for defining and managing the production of SMPs and those carrying out work to produce these plans.

The volumes are as follows.

Volume 1: this defines an SMP and what it should include.

Volume 2: this provides guidance on how to produce an SMP in line with the requirements in volume 1.

Volume 2 appendices: this is a CD-ROM of technical appendices supporting the approaches recommended in volume 2. It sets out methods to help in producing an SMP, including examples of some of the methods used when developing this guidance.

Volume 1 updates the 2001 guide for coastal defence authorities. It takes account of Futurecoast and the findings of the guidance project carried out between 2002 and 2004 (including three 'pilot' shoreline management plans). See www.defra.gov.uk/environ/fcd/policy/smp.htm for more details.

We have developed volume 2 using industry-wide expertise to find the most appropriate best-practice methods for delivering the SMPs. In 2003, we consulted on the draft guidance and have now amended it after considering the responses and the three 'pilot' shoreline management plans.

There is a glossary at the end of volume 1 to explain some of the terms we use.

1.2 Background to Volume 2: Procedures

Interim procedural guidance was produced in 2002/03 by a group of over 20 different organisations and individuals involved in SMP production. This guidance was subsequently consulted upon and trialled on three 'pilot' SMPs. These activities have led to a series of refinements, clarifications and structural improvements to Volume 2. These documents support Volume 1, through identifying activities and approaches to delivery of the requirements set out in Volume 1.

The contents of this document has been reviewed and agreed by a steering group including representatives of the Environment Agency, Natural England, local authorities and Defra, and by those involved in the three 'pilot' SMPs.

Compliance with this document is not mandatory but it does provide a framework which satisfies Defra's requirements for SMPs. It also offers those involved in the SMP development process with the benefit of a wide range of expertise from several client and consultant organisations involved in the first generation plans, and lessons learned from the application of the interim procedural guidance on the three 'pilot' SMPs.

1.3 Structure of Volume 2

The technical content of Volume 2 is presented in three main parts.

- Guiding principles, which are described in chapter 2.
- Summary of tasks and activities, detailed in chapter 3.
- Guidance on delivering the tasks and activities, are then described in six stages.

Technical appendices are provided separately to this document. These appendices elaborate upon some of the methodologies and tools that may be used to help develop the SMP. A summary of the contents of each of these appendices is provided below.

In addition to these documents, reference can also be made to the three 'pilot' SMPs, which provide examples of completed documents. These can be accessed via links from the Defra website.

1.4 Tools, techniques and supporting information

This section summarises the contents of each of the Appendices and Annexes provided on the Volume 2 CD.

Appendix A: Stakeholder Engagement Strategies

In support of Tasks 1.3 and 4.4, this outlines the role and importance of a Stakeholder Engagement Strategy, and identifies information/decisions required to prepare the strategy. It also provides a suggested format for a stakeholder engagement strategy. The supporting annexes provide details on aspects of implementing the strategy.

- Annex A1: Stakeholder engagement groups.
- Annex A2: Listing of possible stakeholders.
- Annex A3: Initial consultation materials.
- Annex A4: Techniques and issues.
- Annex A5: Resolving differences of view in SMP preparation.

Appendix B: Data Access and Management

In support of Task 1.4, this provides full detail of the various data and information required in the production of an SMP. This includes sources, contact details, licensing issues, etc.

Appendix C: Socio-Economic Appraisal and Sensitivities

Linked to Tasks 1.4 and 3.4, this provides details of the generic analysis required for the SMP and also details the Modelling and Decision Support Framework (MDSF) tool that has been developed for use on SMPs. This includes the appropriate use of the software at various stages of SMP

development. The supporting annexes include details of some of the key data sources used by the system.

- Annex C1: Overview of the risk assessment of flood and coastal defence for strategic planning (RASP) high level methodology (HLM) outputs.
- Annex C2: Guidance on flood/erosion risk and asset data.
- Annex C3: reductions in standards of service due to climate change.

Appendix D: Shoreline Interactions and Response

In support of Tasks 2.1, 2.2 and 3.2, this outlines the methodologies to be used in developing the baseline understanding of coastal behaviour and dynamics, and in undertaking shoreline response assessments for both baseline and policy scenarios. This includes details of how these assessments are applied in SMP development. The supporting annex provides full details of specific techniques for shoreline response assessment.

- Annex D1: Data and information.
- Annex D2: Techniques.

Appendix E: Open coast SMP management boundaries

In support of Task 1.2, this provides a review of the appropriateness of current SMP boundaries and makes recommendations of suitable changes to these boundaries based upon process and shoreline evolution characteristics alone, including the possibility of merging some SMPs, for consideration by coastal groups. The supporting annexes contain tables for each SMP detailing the boundary assessments and a summary of the boundary relationships with Futurecoast (Halcrow, 2002) systems and statements.

- Annex E1: Review of SMP1 boundaries.
- Annex E2: SMPs and Futurecoast boundaries.

Appendix F: Integration of Estuaries

In support of Task 1.5, this provides guidance to coastal groups on determining whether, and how, estuarine shores should be included in the SMP process, including how to answer the key questions of; should the estuary be included in the SMP process? and, if so, how?; and, how far upstream should the estuary be included? Supporting annexes provide some of the data required to make the assessment and detailed information on the approach adopted.

- Annex F1: Review of estuary types, influences and decision-support tools.
- Annex F2: Analysis of Futurecoast database of estuary parameters.
- Annex F3: Example application of guidance.
- Annex F4: Previous attempts to provide generic definition of estuarine limits.

Appendix G: Definition of issues and objectives

In support of Task 2.4, this provides details of the preferred approach that can be adopted for the determination of SMP objectives. It includes a review of steps to support the definition of objectives. It also indicates details of possible objective evaluation methods.

- Annex G1: Risk appraisal.

Appendix H: Policy Appraisal Methodology

In support of Stage 3, this provides information on the process of Policy Option appraisal; including the inputs and appraisal techniques required to deliver a consistent approach to SMP development. Details of the principles of policy appraisal are given together with detailed guidance on the steps involved in policy decision-making. This section also identifies the various tools and techniques available to undertake the policy appraisal process. This includes a review of the use of policy drivers, ranking and percentage compliance in the appraisal of achievement of objectives by policies. Guidance on techniques to evaluate asset risks is also included.

- Annex H1: Appraisal summary tables.
- Annex H2: Techniques for policy scenario comparison.

Appendix I: Standard Output Formats

In support of Task 3.5, this provides guidance on the standard tables and formats that should be used in developing and presenting SMP outputs.

- Annex I1: SMP content.
- Annex I2: Example mapping.
- Annex I3: Standard templates.

Chapter Two: Guiding principles

Tenby harbour

2.1 Introduction

It is important to recognise that the next generation SMPs are a **review** of the policies contained in the current SMPs; the process is therefore not one of starting from first principles with no information available. It is however necessary to revisit the manner in which the existing policies were derived and confirm their robustness. It is also necessary to update the SMPs to accommodate changes since the first generation, for example the requirement to now consider beyond the 50 year horizon. This in particular is a significant change from previous strategic planning, doubling the length of time into the future that is to be considered.

Some of this guidance is targeted at achieving greater consistency in the assessments and presentation of SMP, but there are more fundamental issues that have been identified, which the SMP will need to consider. These include clarity in the decision-making process, the justification for some of the current SMP policies, and dealing with the implications of providing a long-term 'sustainable' plan which may require significant changes from present management practices.

This distinction between the 'preferred plan' and 'policies' should also be recognised. The 'plan' represents the long-term vision, considering the interactions and implications across the whole SMP and identifies the changes required to achieve that. The 'policies' are the means of achieving this plan at the local level over discrete timescales.

2.2 Basis for the SMP

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. Nonetheless, it must be recognised that the policies being delivered by the SMP can have considerable implications for a large number of people; therefore development of the plan cannot be carried out in isolation. For this reason a participatory approach to SMP development is recommended. Approaches to stakeholder engagement, and the requirements for these stakeholders, are included in these procedures.

Some of the preferred policies determined from the SMP process may not be universally welcomed by some groups. One significant issue arising from some of the first generation SMPs is the inappropriateness of certain policies which, when tested in more detail with a view to being implemented, may be found to be unacceptable, unaffordable or impossible to justify. It is therefore important that the SMP is realistic given known legislation and constraints, and does not promise policies that cannot be delivered. There will be no value in a long-term plan which has policies that are driven by short-term objectives and cannot be justified once implementation is considered several years in the future.

At the same time it is important to clarify that where a policy is set and adopted/agreed by the participating organisations, this does not represent any commitment to future funding. Funding for the implementation of policies will be sought individually through the recommendations of the Action Plan.

The importance of identifying this within the SMP cannot be over-stated and working with stakeholders to reach a common understanding of coastal issues can therefore be an important aspect of SMP development. Whilst the plan should remain flexible enough to adapt to changes in legislation, politics and social attitudes, it is advisable that the SMP policies are developed on the basis of current legislation and economic data, not on any assumption that these might alter over time.

2.3 A sustainable plan

The SMP seeks to provide 'sustainable shoreline management policies'. However 'sustainability' can mean different things depending upon the individual viewpoint; it is not necessarily the same for conservation bodies, the national treasury, or local residents within a coastal settlement. What is required is consideration of the conflicting pressures on the coast and constraints upon its management, to seek to provide an optimised plan, one which provides 'balanced sustainability' i.e. it needs to consider people, nature, historic and socio-economic realities.

The SMP promotes management policies for a coastline into the 22nd century, which achieve long-term objectives without committing to unsustainable defence practices. It is, however, recognised that due to present-day objectives and acceptance, wholesale changes to existing defence management may not be appropriate in the very short-term. Consequently, the SMP will need to provide a 'route map' for decision makers to move from the present situation towards the future.

It is therefore appropriate to consider objectives, policy setting and management requirements for various timescales; the short-term, medium-term and long-term. It is recommended that these should correspond broadly to time periods of 0 to 20 years, 20 to 50 years and 50 to 100 years respectively (the 3 epochs), but these periods should not be regarded as rigid criteria. More importantly is the consideration of how defence management might change and in broad terms when this might happen.

A guiding principle is that the SMP needs to define a long-term sustainable **plan**, even though that may change with time. There will always be uncertainty associated with considering the long-term, both in terms of extrapolating information and making predictions regarding coastal risks, future legislative requirements, opportunities and constraints. Consequently, a primary function of the SMP should be to demonstrate that defence management **policies** proposed today, i.e. in the short-term, are not detrimental to achievement of that plan.

2.4 Clarity of decision making

The development of management policies for different epochs should not be used as an opportunity to defer difficult decisions. The plan must address the problems that may exist in the future and should be realistic, according to existing legislation and assessment criteria.

To ensure this, key requirements are for the SMP decision-making process to be:

- robust;
- transparent; and
- auditable.

Most important is a robust analysis that supports appropriate policy decisions. Critical for transparency is a clearly defined process by which the key decisions are made and how the policies are derived from them; this promotes clarity and, importantly, ownership of key decisions. The requirement for auditability requires the process to be documented in such a way that recommendations are traceable back to source information.

Compliance with the approaches and standard formats presented in these procedures should enable these requirements to be met.

2.5 Policy development

There are three primary factors that are central to the approaches provided by these procedures.

1. An evaluation process which considers the relative importance of issues/objectives and links these through to policy assessment. This links all identified issues to tangible features, provides guidance on how to assess the qualitative value of that feature, and gives a framework for determining the risk to that feature. It is used in development of policy scenarios and is directly referenced in assessing the implications of different policy scenarios.
2. A focus upon the analysis of policy scenarios, rather than individual policy options, to develop and test the preferred plan. The recommended approach is to consider all or part of the whole SMP area, rather than consider individual locations in isolation. In this way the appropriateness of an option can only be determined once considered in conjunction with proposed policies for other locations.
3. An emphasis upon analysing shoreline interactions and response. This is recognised as being fundamental to the development of sustainable policy in most cases. For each policy scenario it assists in determining risks and implications for each feature. It requires an understanding of the influence of different defence management practices and therefore also enables the appropriateness, at a broad level, of the management techniques to be identified.

An important feature of the approach is that policy decisions are initially taken upon the appraisal of achievement of objectives, not on an economic appraisal. Economic assessments are only undertaken to provide a check on the viability of the selected preferred policies. This is an important factor in delivering the best sustainable solution, rather than a purely economically driven one.

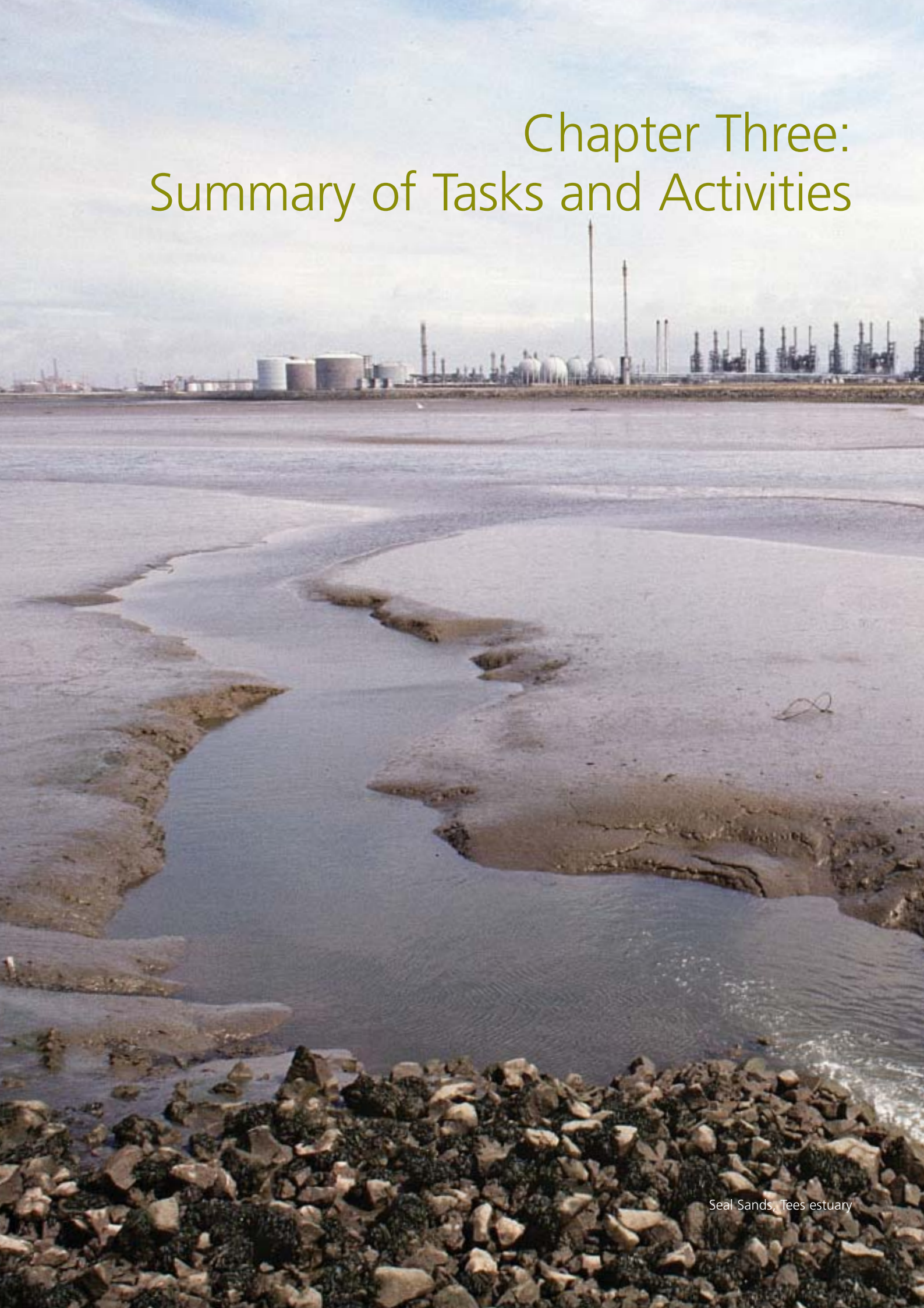
2.6 Appropriate level of detail

The SMP is to inform high level planning and the presentation should therefore be clear and non-technical. However, to promote sustainable policies a certain amount of detailed analysis will be required to ensure that the policies are appropriate and not overturned by inadequate or incomplete assessment.

This does not necessarily require extensive additional studies; the SMP should seek to maximise the use of existing information, assessments and knowledge, much of which may exist within the current SMP. Common approaches to collection of latest standard data sets are also included within this guidance, to benefit the data supplier and the SMP developer.

This guidance recommends that any additional investigations (e.g. modelling) or information gathering is conducted prior to commencing SMP development. Factors that need to be considered to determine this are provided within this document.

Chapter Three: Summary of Tasks and Activities



Seal Sands, Tees estuary

3.1 Overview of tasks

An overview of the recommended approach for producing the SMP is presented here. The tasks and activities defined here may form the basis for a 'Brief to Consultants'.

Table 1.1 gives brief details on the nature of the tasks and activities to be undertaken, which are elaborated in subsequent sections of this document. Figure 1.1 illustrates the suggested workflow for an SMP. This task list includes an **indicative** programme to complete the draft SMP (Stages 2 to 3), with issue of the final Plan (Stage 6) approximately 18 months after commencing its development. An indication is also provided of the scoping activities (Stage 1), which could need to start up to 12 months before the SMP development commences, if substantial studies are required.

The programme for future review of the SMP will be defined as part of the Action Plan (Task 5.2). However, it will be important that the procedure of management of 'new' data/information, which will become available following completion of the SMP, is identified. The collation of this information will facilitate its ready use in the next SMP review. It is also important to note that it is not expected that the SMP be reviewed each time new information becomes available, although this remains a possibility where significant developments are made.

Table 1.1 Task List

Stage 1: Scope the SMP

Task	Description	Typical Activities	Indicative Timing
1.1	Initiate SMP	Agree Client Steering Group [CSG] membership Decide upon approach to produce SMP Decide scope of work to produce the SMP	Start
1.2	SMP Definition	Confirm SMP and study boundaries Identify any outstanding study requirements for the SMP Agree form of SMP	Up to 3 months duration
1.3	Define Stakeholder Engagement	Define stakeholder engagement strategy Identify stakeholders, status and details Contact stakeholders and inform them of SMP process	Up to 6 months duration
1.4	Data Collation	Initiate data collection process and obtain data for the SMP Data management Initial review of data	Up to 6 months duration
1.5	Additional Investigations (if required)	Determine estuary limits (if necessary) Undertake any modelling/process analysis (if necessary) Update defence information (if necessary) Obtain heritage information (if necessary)	1 month up to 12 months duration, depending upon extent of any studies

Stage 2: Assessments to Support Policy Development

Task	Description	Typical Activities	Indicative Timing
2.1	Baseline Understanding of Coastal Behaviour and Dynamics	Assess coastal process and evolution Assess coastal defences	Month 1-2
2.2	Develop Baseline Scenarios	'No active intervention' (NAI) assessment 'With present management' assessment Mapping of predicted shoreline change	Months 3-4
2.3	Define Features, Benefits and Issues	Produce theme review and map spatial data Identify features and issues Identify benefits provided by features	Months 1-2
2.4	Define Objectives	Determine objectives Review and agree issues and objectives with stakeholders	Month 3-4
2.5	Identify Flood and Erosion Risks	Use NAI assessment to assess risks	Month 5
2.6	Assess Objectives	Evaluate relative importance of objectives Review and agree objective evaluation with stakeholders	Months 5-6

Stage 3: Policy Development

Task	Description	Typical Activities	Indicative Timing
3.1	Define Policy Scenarios	Identify key policy drivers Identify potential policy options Develop policy scenarios for assessment	Month 7
3.2	Policy Scenario Assessment	Assess shoreline interactions and responses Assess achievement of objectives	Months 7-9
3.3	Preferred Scenario Identification	Review scenario testing to agree selection of preferred policy scenario and Policy Units, including stakeholder input Define Policy Units Agree preferred policies with CSG	Month 10
3.4	Confirm Preferred Scenario	Sensitivity testing Socio-economic assessment	Month 10
3.5	Draft SMP Document Preparation	Draft SMP document SMP appendix preparation	Months 11-12

Stage 4: Public Examination

Task	Description	Typical Activities	Indicative Timing
4.1	Gain Approval in Principle	Consult elected council members and RFDC	Month 11
4.2	Confirm Consultation Strategy	Identify consultation method Define consultation response management	Month 12
4.3	Prepare Materials	Produce SMP draft document/s for consultation Prepare any additional materials	Month 13
4.4	Public Consultation	Conduct consultation activities Collate consultee responses Assess consultation responses	Months 13-16

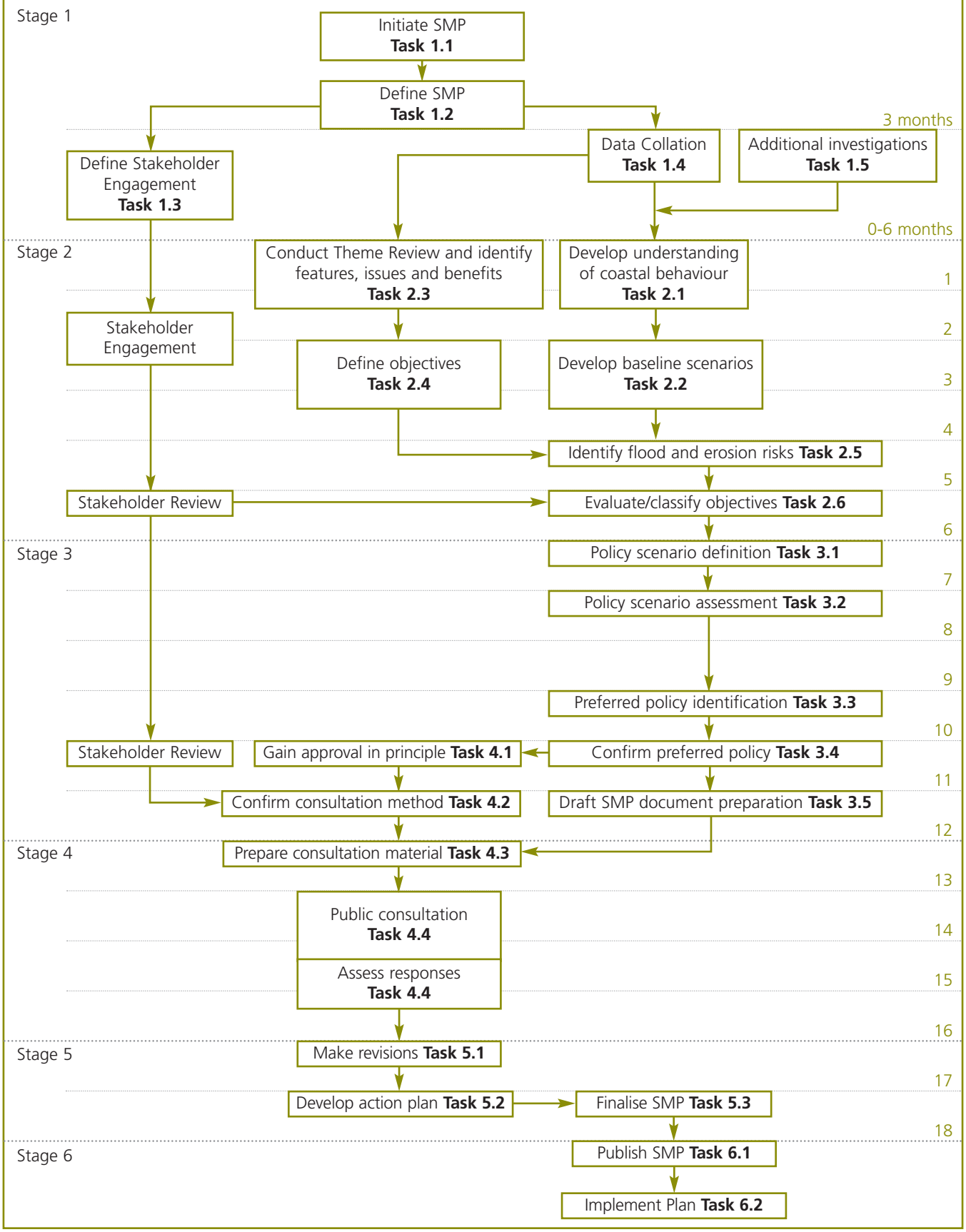
Stage 5: Finalise Plan

Task	Description	Typical Activities	Indicative Timing
5.1	Determine Revisions to Draft SMP	Determine extent and impact of any changes required Get agreement to changes Prepare Consultation Report Feedback to consultees	Month 17
5.2	Develop Action Plan	Review policy statements to identify where and when works are expected Develop a prioritised programme of Strategies and an outline of potential future schemes Establish any actions that will be required to resolve uncertainties Establish any actions that may be necessary to deal with the consequences of the plan	Month 18
5.3	Finalise SMP	Finalise SMP documents Adoption of the SMP Link to planning Populate national SMP summary database Submit adopted plan to Defra for agreement	Months 17-18

Stage 6: Plan Dissemination

Task	Description	Typical Activities	Indicative Timing
6.1	Publish SMP	Make the SMP accessible Publish SMP completion.	Month 18
6.2	Implementation of the Plan	Implement action plan programme of identified studies	Ongoing

Figure 1.1: SMP workflow plan (including task numbers)



Stage 1: Scope the SMP

Paull Holme Strays

Task 1.1: Initiate SMP

Aim

To formalise the arrangements for development of the SMP review.

Activities

There are a number of areas where the coastal group will need to define how the SMP review should be undertaken, by whom (in-house or commission specialists) and how it should be managed, prior to commencing its development (Stage 2 onwards). These are as follows.

(a) Agree Client Steering Group (CSG) membership.

(b) Decide upon approach to produce the SMP, (including procurement strategy, if appropriate).

(c) Determine scope of work to produce the SMP.

Delivery

(a) Agree Client Steering Group (CSG) membership

Initially, membership of the SMP Client Steering Group (CSG) needs to be established. This will generally include each of the maritime district councils, County Councils, Environment Agency, Natural England (and/or CCW) and a representative from Defra/WAG. However it may be relevant to include other bodies and organisations that have a particular interest in the SMP coastline, for example National Trust, English Heritage, Port Authorities, and a decision as to whether they should be represented on the Client Steering Group (CSG), or have an input through other channels (e.g. separate stakeholder groups), should be made.

Appropriate individual representatives from the client authorities also need to be identified. These are generally local authority and Environment Agency engineers and planners, or other key technical officers. Given the length of time it takes to produce a plan and the level of input required from the various representatives, it is important that representatives should be sought who will be able to commit to the inputs required to deliver the plan through its duration; lack of consistency through changes in personnel or infrequent involvement can be disruptive and time-consuming. Notwithstanding this, it is imperative that representatives of both planning and engineering disciplines are involved to ensure appropriate 'buy in' and hence uptake of the final Plan.

(b) Decide upon approach to produce the SMP

The approach to producing the SMP requires consideration of a number of aspects. The CSG can familiarise themselves with these by reference to Tasks 1.2 to 1.5 of this document.

A second consideration is who will undertake the SMP. This will depend upon whether the CSG have the capabilities and resources available to develop the SMP themselves to meet the requirements as set out in this guidance. Otherwise, the CSG may decide they will need to procure external services, e.g. a consultant. The form of contract and requirements for tendering will depend upon the specific requirements of the CSG. Consideration needs to be given to

which elements of the SMP development should be commissioned on a fixed-sum arrangement and which should be on a time-related charge basis. The latter might include all activities relating to, or as a result of, stakeholder engagement and consultation.

Other considerations will be the choice of lead authority for grant aid submission, and responsibilities for project management.

(c) Determine scope of work to produce the SMP

This guidance document can be used to provide a specification of necessary activities for development of the SMP (Stages 2 to 5). The CSG will need to supplement this with details generated from Tasks 1.2 and 1.5, together with any other requirements for project administration, e.g. frequency of meetings, management reporting, etc.

In order to best determine the precise extent of work required to undertake the SMP, the CSG needs to again decide whether to scope this themselves or procure external services to do some or all of this. The decision will depend largely upon the extent and nature of pre-SMP assessment likely to be required, and again whether the CSG has the capability and/or resources to undertake this activity. The statutory consultees for SEA should be consulted on the scoping work.

If a scoping study is to be commissioned, it should be decided whether this is to be considered separately from the main SMP development (Stage 2 onwards) or as part of a commission for the entire plan. If the latter, then consideration should still be given to phasing the contract, i.e. the required costs and inputs for Stage 2 onwards would probably need to be determined after completion of Stage 1.

The nature of any detailed specification (if required) will also depend upon how the SMP is procured. Although development of the SMP might be undertaken by members of the CSG's own organisations, it will remain important that there is clear definition of what activities are being undertaken, when and by whom. This will enable other members of the CSG to be able to follow the SMP development and clarify individual contributions and input requirements during the review process.

Task 1.2: SMP Definition

Aim

To define the requirements for the SMP review.

Activities

There are a number of activities that will need to be undertaken to establish the scope of the SMP and information available for its production.

(a) Confirm SMP and study boundaries.

(b) Identify any outstanding study requirements for development of the SMP.

(c) Agree form of the SMP (e.g. web-enabled).

These activities might be conducted by the CSG, or be conducted in whole, or in part, as a separately commissioned scoping study.

Delivery

(a) Confirm SMP and study boundaries

The appropriateness of the current SMP open coast boundaries has been reviewed and is reported in Appendix E. This should be used as a guide to establish whether any boundary change might need to be considered. There may be other reasons for considering a change, in some instances reducing the extent of the SMP (where identified as acceptable by Appendix E), in others combining more than one SMP. Both options may have benefits in terms of management effort and costs, or programme for delivery of the SMP(s).

Where there are major rivers and estuaries within the area being covered by the SMP, a decision is required on the extent to which this river or estuary needs to be included as part of the SMP. Where a Catchment Flood Management Plan (CFMP) has already been commissioned by the Environment Agency, the appropriate boundary will have been determined. Where one has not been commissioned, determination of this boundary will need to form part of the SMP scoping stage (see Task 1.5).

Notwithstanding the shoreline boundaries for the SMP, the studies and information required to produce it may need to extend beyond these boundaries, for example in looking at coastal processes or obtaining physical data such as waves and water levels. Where this is the case, there may be considerable benefits of combining the pre-SMP studies to be inclusive of adjacent SMP needs. This does not, however necessarily mean that the SMPs themselves need to be combined.

(b) Identify any outstanding study requirements for development of the SMP

It is recommended that a review of the current SMP and subsequent studies arising from them is initially undertaken to assess whether any gaps in understanding have now been sufficiently addressed so as to allow policy appraisal and the satisfactory development of the SMP.

Should significant gaps remain, further studies could be commissioned ahead of the SMP review. However, it must first be determined that they are absolutely necessary to enable production of the revised SMP. This will require the CSG to consider the level of precision appropriate and practically achievable for management policy definition, and thus the choice of methods to be employed in conducting assessments of shoreline risks, interactions and response (Box 1.1 below). From this, the need for additional modelling or data analysis may be identified, which is discussed in Task 1.5.

Box 1.1: Factors to consider in choice of techniques for analysing shoreline interactions and response

The choice of techniques to adopt will depend upon:

- data/ information available (what is achievable with existing knowledge and what is appropriate to address the requirements for SMP development);
- land use and thus value placed on the assets potentially at risk on that coast;
- quality of output required (e.g. qualitative or quantitative) and precision required in predictions of future shoreline changes;
- coastline type (complexity of processes operating on that coast, its inherent sensitivity and magnitude of shoreline changes that might be expected).

For example, on a shoreline where little change is expected to occur, or where there are no major assets likely to be at risk, a detailed and quantified study of shoreline evolution is not warranted. However, on a shoreline where there is significant development and where even small changes in shoreline position can have major consequences, a detailed and quantified study of shoreline evolution might be appropriate.

The approach to be adopted for any individual SMP needs to be determined by the coastal group and this decision will need to consider the following key questions:

- what level of precision is required in the assessment of shoreline evolution; is the choice of policy likely to be dependent upon having such precision?
- will the increase in precision produce a corresponding improvement in accuracy or reduce uncertainty in the proposed policy?
- does this level of precision warrant the additional costs involved?
- does the information actually exist to enable a better understanding to be obtained?

(c) Agree form of SMP

It is important to consider at this early stage the final form of the SMP, e.g. whether the final delivery will include hard copies and the procedures for management of the SMP website. The approach can have a bearing upon how the SMP is structured and how documents are produced. There are different options for websites, ranging from being fully interactive through to simply placing PDF files on an existing site (see Appendix I).

Methods of disseminating information on the SMP during its production should also be considered. This may require a website being set up at the start of the commission; in which case decisions need to be made on who will be responsible for maintaining the site.

Task 1.3: Define Stakeholder Engagement

Aim

Stakeholder involvement is an important part of the SMP development process. In setting up the SMP the CSG must decide on what approach to take in terms of proactive stakeholder interaction to get 'buy in' to the SMP process and the subsequent decisions made on their behalf and the form that this should take.

Activities

It is important at this early stage to identify the stakeholders and engage them from the start of the SMP process; therefore it is recommended that the following activities are undertaken at this scoping stage.

(a) Define stakeholder engagement strategy.

(b) Identify the stakeholders, their status and their contact details.

(c) Contact stakeholders and inform them of the SMP process.

Delivery

(a) Define stakeholder engagement strategy

Stakeholders are expected to be involved in the SMP development to help define issues and objectives, steer policy development, and to get consensus on a preferred plan. There are different types of stakeholder engagement and those responsible for SMP preparation must decide which approach is appropriate given their specific SMP frontage.

The most appropriate stakeholder engagement is dependent on the characteristics of the SMP shoreline and likely risks associated with that, i.e. the degree of uncertainty over acceptable policies and contention that might arise. It is also dependent upon the number of interested parties and organisations involved with the coast and how proactive engagement with them could be. The stakeholder group will usually contain all of the members of the CSG and occasionally the CSG alone may adequately fulfil the role of the stakeholder group, depending upon these issues. This is not expected to be commonplace, although to some extent it also depends upon the composition of the CSG (see Task 1.1).

A participatory approach for SMP preparation is recommended. This will involve other bodies contributing to the decision-making process in some way, including, for example, local conservation bodies, major landowners and/or community interests. Even where a participatory approach is adopted, wider consultation on the draft SMP will still be required at a later stage (Stage 4). This might or might not result in SMP information, ideas or policy having to be amended; however in developing the plan in conjunction with the stakeholders, the possibility of this should be reduced.

A stakeholder engagement strategy sets out the requirements for stakeholders, the stakeholders involved, the methods employed and the responsibility for implementation at each stage of the

SMP process. A framework for defining the engagement strategy outlined in Box 1.2 is proposed in Appendix A.

Box 1.2: Guiding principles influencing stakeholder engagement strategy selection

- **Inclusive.** The initiation of the SMP process should indicate whether a participatory or a consultative approach is adopted and outline the extent of wider community involvement.
- **Transparent.** Timely, accurate, comprehensive and accessible recording of representations, decisions and their justification is required to track decisions. The strategy should indicate who has responsibility for this.
- **Appropriate.** The range of stakeholders, their level of involvement and likely knowledge, the potential for differences of view and the opportunity for awareness raising will influence the approach adopted.
- **Clear.** The roles of different "players", including where final decision-making lies, must be made clear in the strategy.
- **Comprehensive.** The strategy should cover all stages, including plan dissemination and arrangements for reporting on stakeholder engagement.

Whatever strategy is developed, the engagement of stakeholders can be crucial to the development of the SMP. The timing of the stakeholder engagement process and the methods in undertaking it is therefore also very important and all this must be considered and planned for by the CSG prior to the start of the SMP review. The key tasks where stakeholders are involved are set out below (including Task numbers).

- Inform of SMP and seek information/data (Task 1.3c).
- Review of defined issues (2.3c).
- Objective setting (2.4b).
- Policy Scenario definition (3.1c).
- Preferred policy decision (3.3c).
- Draft SMP Approval in principle (4.1).
- Draft SMP consultation (4.4).
- Agreement to changes to SMP (5.1b).
- Feedback to consultees (5.1d).
- Dissemination (6.1).

Based upon experiences on the 'pilot' SMPs it is recommended that 'Elected Members' from the operating/planning authorities are involved throughout the SMP development process in order to gain 'buy in' to the process and understanding of the preferred policies which they will ultimately be asked to adopt.

(b) Identify the stakeholders, their status and their contact details

In selecting the people and organisations to engage in the production of the plan, it is important to remember the need for inclusion and the context of the plan in question. Local knowledge should be used to identify people and groups who are likely to be affected by the plan's policies and, in this respect, the lists in Appendix A should be considered a starting point in assembling the complete list for inclusion in the stakeholder engagement strategy. It is sensible to anticipate from where interest is likely to come during this stage and to include the appropriate people, organisations or groups. This could include elected members who have to sign up to the SMP as stakeholders (see Appendix A) so that their issues and concerns can be raised and considered at the earliest stages of plan preparation, rather than when the plan needs to be adopted.

Those interested will include statutory and non statutory bodies, including local planning authorities and those representing national and local interests, as well as local business interests (including farmers), landowners, occupiers and the general public. This should help to minimise undue delay to the plan's progress in its later stages. It is important to remember that the whole community will have an opportunity to comment on the plan during public consultation (Stage 4).

A database of names, organisations, positions and contact details will be required.

(c) Contact stakeholders and inform them of the SMP process

Standard invitations can be prepared for stakeholders to participate in the plan development process (see Appendix A). This should include information on the aims and objectives of the SMP review. It might also include background information on potential shoreline flood and erosion risks if appropriate at this stage. If required this can draw upon data from Futurecoast (Halcrow 2002).

Some stakeholders will also be the source of significant data. This is discussed in detail under Task 1.4, although this should not be confused with the stakeholder role. However, when initially contacting stakeholders to inform them of the SMP review process, an information/ data request questionnaire could be included. This may not be appropriate for all stakeholders and it may be considered that separate contact is needed.

Task 1.4: Data Collation

Aim

To obtain up-to-date accurate and complete datasets upon which to build the SMP.

Activities

(a) Initiate data collection process and obtain data for the SMP.

(b) Data management.

(c) Initial review of data.

Delivery

(a) Initiate data collection process and obtain data for the SMP

The data requirements are set out in Appendix B and include:

- data from current SMPs (collated data and outputs, including metadata where available);
- base data (Ordnance Survey data that provides the spatial topographic reference for GIS and mapped outputs and boundary data for administrative areas);
- thematic data (data required to assess options and illustrate key themes within the SMP: shoreline features and dynamics, existing defences and baseline evolution, land use, historic environment, landscape, nature conservation);
- local and regionally-specific data (data relevant to the SMP but not available to national standards or specific to a geographic location e.g. coastal surveys, beach monitoring);
- new data (data collected or derived following the first generation SMPs and strategic coastal monitoring and research e.g. Futurecoast). This may also include datasets not currently available but due for issue within the life of the SMP production process (e.g. National Flood and Coastal Defence Database) and nationally managed data purchased specifically for the SMP process;
- other plans (e.g. Regional Sustainable Development Framework, Regional Planning Guidance, Regional Economic Strategy, Community Plans, Local Transport Plans, AONB Management Plan, Management of EU Marine Sites, Local Authority sites and monument records).

A 'Standard Data Package' has been proposed to support the development of the SMPs, to provide a co-ordinated source for at least 'core' national datasets, although this does not necessarily imply data from a single source. Data ownership and licensing issues will prevent the national collation and distribution of some datasets. The aim of standardisation is also to reduce the time commitment of those providing data and those seeking it, but the requirement for latest editions of data will require the standard data request to be issued at the commencement of the SMP process rather than as a single point in time data distribution. To this end, a data proforma is recommended (see Appendix B) that identifies the data requests for the specific SMP.

Principal data providers (who may also have a separate role as stakeholders) are the Environment Agency, the local authorities and other national agencies such as Natural England (see Appendix B).

In addition to the nationally-available datasets, there will also be a need to include non-standard data and locally derived datasets, which should be available from the CSG themselves and other organisations identified by the CSG or stakeholders.

Other sources of potentially relevant information should be contacted, e.g. through a questionnaire process, to determine details on the extent and nature of their interests and any issues or concerns that they have. This will be particularly relevant to the thematic reviews in identifying issues not identified through the stakeholder engagement process.

It is also advisable that, where they do not already hold one, the CSG seek to obtain or create a digital version of the current SMP.

(b) Data management

A key data management requirement is the recording of information used within the SMP. Appendix B provides full details of the management requirements of spatial and thematic datasets used and generated within the SMP production process.

All information gathered and used in the SMP development should be properly referenced and recorded in a bibliographic database.

Good data management practice recommends compliant metadata (concise information about a data resource) for all datasets used or created within the SMP process. No national coastal metadatabase product is available to support SMPs, although a number of coastal metadata programmes have been established, e.g. GIGateway.

There is little need to be prescriptive about the platform for the development of the SMP review so long as the outputs meet specifications set by the coastal groups that allow operation within their own GIS. However, common tools and standardised data are proposed for the policy option determination, operated through the Modelling and Decision Support Framework (MDSF). MDSF has a number of mandatory data requirements (those inherent in the modelling) and optional contextual datasets. The mandatory data requirements of MDSF will be met by national datasets (see Appendix B).

(c) Initial review of data

An initial review of the data may be required to supplement the decisions regarding additional investigations as part of Task 1.2. Further review will be undertaken as part of the theme review (Task 2.3) and the baseline understanding of coastal behaviour and dynamics (Task 2.1).

Task 1.5: Additional Investigations (if required)

Aim

To undertake any further studies to provide information necessary for the review of the SMP.

Activities

Dependent on the requirements identified from Task 1.2, the following activities may be required prior to the SMP development to enable clear specification of the work required and to minimise any unnecessary delays to the programme once the SMP development has commenced.

(a) Determine estuary limits (if necessary).

(b) Undertake any modelling/process analysis (if necessary).

(c) Update defence information e.g. National Flood and Coastal Defence Database (NFCDD) (if necessary).

(d) Obtain heritage information (if necessary).

Delivery

(a) Determine estuary limits (if necessary)

Where an estuary or major river exits to the sea within the area covered by the SMP, there is a need to take account of its influence upon coastal change, and vice-versa, and to consider compatible management policies.

If estuary limits have not already been established, for example through production of a CFMP, then the SMP is to set the boundaries which will be used in any subsequent CFMP. A methodology for determining these is provided in Appendix F.

(b) Undertake any modelling/process analysis (if necessary)

Information on shoreline processes, past and potential future evolution is required to enable the assessment of shoreline interactions and response. The level of information required to do this depends upon:

- the complexity of processes at the shoreline;
- the importance that an understanding of these has for developing robust policies;
- the level of precision in defining risks that is required for SMP policy development.

Further guidance on these matters is provided in Appendix D.

For some SMPs an understanding of coastal interactions and response sufficient for the SMP analysis may be developed from expert interpretation of existing knowledge. In the first instance reference can be made to the various information and assessments provided by Futurecoast, copies of which are held by each coastal group. However in some areas it may be considered necessary to undertake additional analysis, including a quantitative element such as numerical modelling or more detailed analysis of rates of shoreline change may be required to improve confidence in the extent and timing of assets at risk. In general, it is proposed that any modelling or derivation of this information is conducted before the SMP development takes place. Appendix D provides details on the requirements for the baseline understanding of coastal behaviour and dynamics (Task 2.1), the baseline scenarios (Task 2.2) and the policy appraisal (Task 3.2); and outlines the different techniques that could be applied.

(c) Update defence information e.g. NFCDD (if necessary)

Information on defences is required for the SMP to help assess the influence that these have upon shoreline response and future policy requirements. The National Flood and Coastal Defence Database (NFCDD) should provide the required information. However where this is not available or up to date, required information should be sought from the operating authorities and local defence owners.

Information collected should be appropriate to the needs of the SMP. Finer details are not required, simply location, defence type, and a general overview of condition to enable assessment to be made of its effective residual life. Appendix D provides further guidance on defence residual life assessment and thus the level of information required for SMP development.

Given the status of the NFCDD database for particular SMPs, information collected as part of the SMP review process could be used to update this dataset. This would be outside the requirements of the SMP but would add value to the datasets as a whole. The CSG would have to decide if this additional study is required as part of their SMP scope.

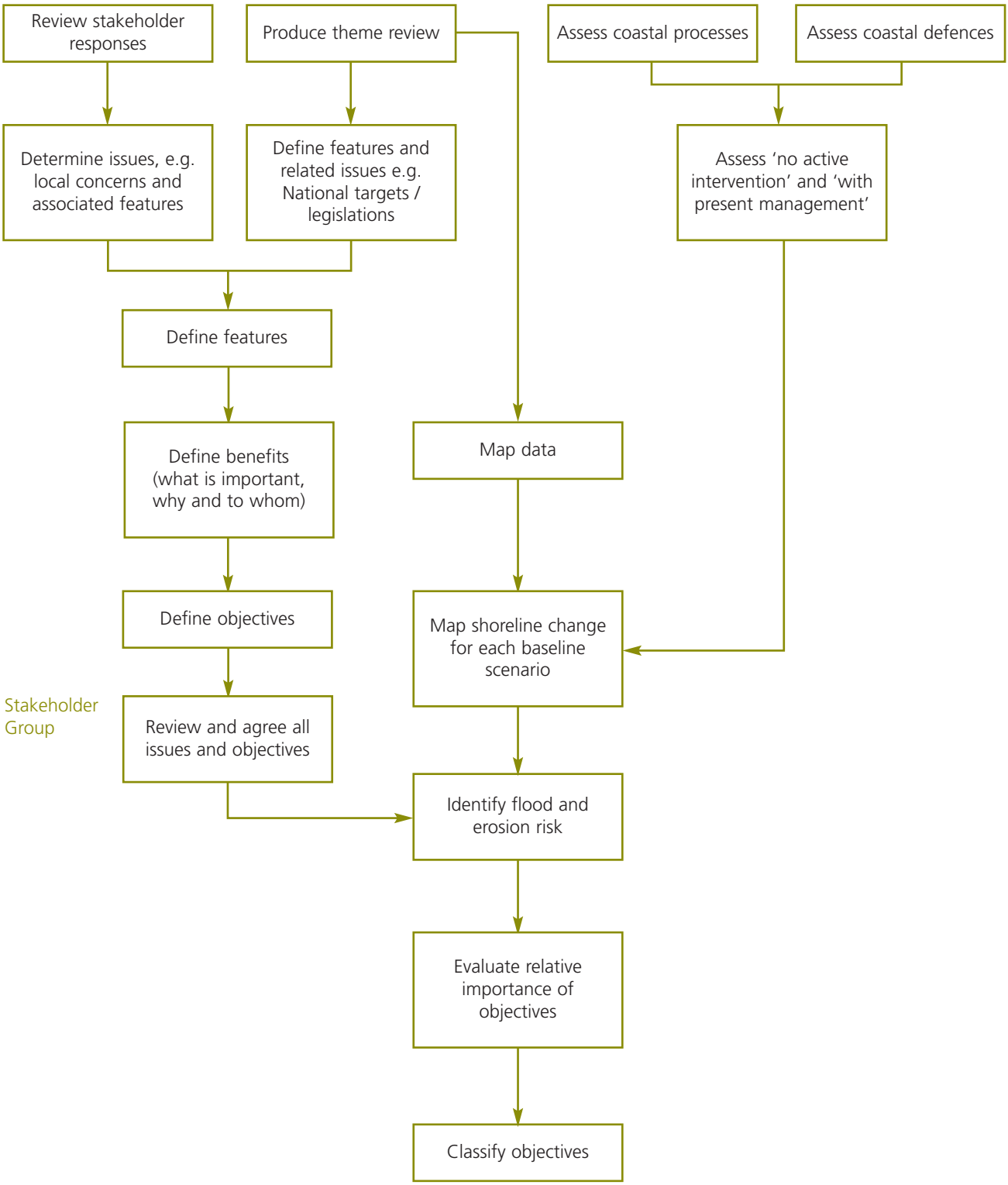
(d) Obtain heritage information (if necessary)

See section 3.4a in volume 1.

Stage 2: Assessments to Support Policy Development

Sea defences near Immingham

Figure 2.0: Stage 2 Flow diagram



Task 2.1: Baseline Understanding of Coastal Behaviour and Dynamics

Aim

To provide a review of coastal behaviour and dynamics, which will be used to develop the baseline scenarios, identify risks and test the response and implications of different management policy scenarios over the different timescales. As well as considering natural features along the coast, there also needs to be consideration of existing defences.

Activities

The appreciation of coastal behaviour and dynamics underpins the SMP development as illustrated in Figure 2.0. There are two primary activities associated with this task.

(a) Assess coastal processes and evolution.

(b) Assess coastal defences.

Delivery

(a) Assess coastal processes and evolution

An appreciation of the potential wider impacts of policies on the coastal processes throughout the SMP frontage is essential at various temporal and spatial scales. In order for robust decisions to be made, a detailed review of existing information is important so that any uncertainties are clearly defined. Appendix D provides details about where information can be sourced from and how this information should be used. Futurecoast (Halcrow, 2002) provides a key reference document, as does the current SMP and any subsequent strategy studies. Appendix F should be used to identify estuary limits and possible influences which must be accounted for within the baseline understanding. It is not anticipated that any new modelling will be undertaken at this stage; the need for any such modelling should have been addressed during Stage 1 (Tasks 1.3 and 1.5).

It is important to establish where previous conclusions and results have been obtained from, and it is also useful to identify repetition; often the same information is used by a number of studies. Wherever possible it will be important to seek to use these conclusions and results of previous work rather than revisiting the information in full detail. This does not however mean that these conclusions should not be challenged by this review or that they should be used for the SMP if their veracity is questionable.

Available information on predictions of future evolution should also be included, but it is important to note the assumptions upon which these predictions are based.

(b) Assess coastal defences

Information on coastal defences should be provided by Task 1.4. Whilst this data may hold information on residual life it is suggested that this is reconsidered as part of the SMP. Residual life for the SMP need only be considered in broad-terms; this is not an operational plan but a plan

looking at decadal change. Guidance on how to relate defence condition to residual life is provided in Appendix D. In addition to the condition of the structure, any estimate of residual life should be adapted to also take account of the state of the foreshore, general levels of exposure for that coast and what is known regarding shoreline evolutionary trends (from activity (a) above).

A history of defence practices at any location can also be useful to help understand the influences upon past evolution, as defences may have affected the rates and nature of shoreline change determined as part of activity (a).

Task 2.2: Develop Baseline Scenarios

Aim

To provide an appreciation of how the shoreline is behaving and the influence that coastal management has upon this behaviour, which is the basis upon which flood and coastal risks are determined. This analysis is then used to develop and appraise policy scenarios (See Stage 3).

Activities

Baseline response assessments are required for two scenarios.

(a) 'No Active Intervention', which assumes that defences are no longer maintained and will fail over time.

(b) 'With Present Management', which assumes that all defences are maintained to provide a similar level of protection to that provided at present.

(c) Mapping of predicted shoreline change.

Delivery

The analysis needs to provide an understanding of coastal evolution within 3 epochs of approximately 0–20 years, 20-50 years and 50–100 years, in response to each baseline scenario. It is recommended that for consistency between SMPs, the output for both baseline scenarios be provided for years 2025, 2055 and 2105.

A fundamental input to the baseline cases is Task 2.1, the understanding of coastal behaviour and dynamics both historically and present day, as it identifies key linkages and interactions along the coast and past shoreline movement. This data should be used to predict response of the coast to changing exposure, sediment inputs, etc. Identifying erosion rates is useful to determine the future shoreline position. However, while some standardisation in an analytical approach is preferred, it is very much dependant on the type of beach sediment and the process by which it enters the system e.g. the cliff base position can be very different from cliff top position.

The required output for each policy scenario and epoch are statements identifying:

- what the shoreline will look like (feature characteristics i.e. morphology and sedimentology);
- where the shoreline will be (position);

- what has caused this change to occur;
- what the impacts are along the coast.

An example of a typical statement is provided in Figure 2.1 below.

Figure 2.1: Example of a Baseline Scenario Statement

Scenario Ref: Baseline Scenario 1 – No Active Intervention

	Predicted Change for		
Location	**Years 0 – 20 (2025)**	**Years 20 – 50 (2055)**	**Years 50 – 100 (2105)**
West Runton to Cromer	Along majority of frontage there are no defences, but the short stretches of masonry wall will start to fail during this period.	No defences.	No defences.
	There will be continued erosion of the cliffs, apart from along the short stretches of wall at West Runton and East Runton. Net cliff line retreat will be between 5 and 20m by 2025. Small embayments will form on either side of the walls and by the end of the period it is likely that these walls will start to be outflanked. Cliff erosion will feed beaches locally and downdrift. There will also be some increased feed (although drift rates low) from the west therefore a similar beach to today should be maintained.	As short stretches of walls are outflanked there will be rapid erosion of the cliff line behind and the small promontories will become eroded with the development of a more linear cliff line in plan. For a short time the structures may interrupt longshore drift along the frontage, but this will reduce as the cliffs behind eroded, leaving them as isolated structures. A cliff line retreat of 15 to 30m is expected by 2055. The beaches are likely to remain in a similar form to present as they will receive some sediment from cliff erosion and from updrift, but as the defences fail at Cromer there will be greater longshore transport to downdrift areas.	There would be increased cliff erosion, due to rising sea levels, with linear retreat of the shoreline, resulting in 30 to 50m of retreat by 2105. Minimum change in beach width/ volume would occur due to the supply of sediment from cliff erosion both locally and along updrift areas.
Cromer	Along most of the frontage the seawall will remain in place for this period.	Complete failure of the seawall at the start of this period.	No defences.
	The seawall will continue to hold the cliff line position along most of the frontage. Narrower, steeper beaches will develop due to the lack of local input and the low drift rates.	There will be continued failure of the seawall, which will result in very rapid erosion of the cliffs behind. There could be a loss of up to 50m in places, within the first five years of the defences failing.	There would be continued cliff recession at a relatively uniform rate characterised by periodic landslides, with lower periods of erosion in between. A net retreat of between 100 and 160m is expected by 2105. There could also be occasionally large scale failures associated with storm surges.

An analytical approach is required that can accommodate changes in forcing (waves, tides etc.), sediment storage and supply, rates of movement, and provide the information to assess the consequential morphological response of features throughout the coastal zone. The recommended means of achieving this is to adopt a *"Behavioural Systems"* approach, as adopted, albeit at a larger scale, in Futurecoast (Halcrow, 2002). There is no single analytical method that will fully address the complexity of coastal systems, but a variety of techniques are available, which can be used in combination to undertake these assessments. Further details on the recommended methodology and techniques available are discussed in Appendix D.

(a) 'No active intervention' assessment

This scenario assumes that defences are not maintained; the effectiveness of the defences will change across each time period as some fail sooner than others, depending on the residual life, for example a concrete sea wall will probably last longer than a timber revetment currently in a similar condition. This scenario therefore needs to take account of the defence residual life assessments carried out as part of Task 2.1 as a first approximation of when defences would fail. It should be noted, however, that this may be affected by changes in the beach morphology, e.g. accretion or erosion of a beach, as a consequence of this scenario.

(b) 'With present management' assessment

This scenario assumes that all current defences and defence practices are maintained to provide a similar level of protection to that provided at present. For this case, it is the function of the defence 'practice' that should be considered rather than specifics of the structure itself. Therefore information in the Defence Assessment report (Task 2.1) needs to be thought of in broad terms, relating how present defences and management practices affect shoreline processes and behaviour.

The assessment should also identify if a practice becomes technically impossible in the future, for example due to rising sea levels, or when the current practice becomes ineffective, e.g. recharge (assuming a similar rate to present). It is important to highlight the reducing standards of service offered by these defences over time.

It is useful if the assessment can give an indication of how the coastline will change, i.e. what it will look like in the future. The implication of continuing to manage in the same way can then be highlighted, for example this may include the narrowing of beaches through coastal squeeze, leaving high vertical structures with no useable beach. An appreciation of how the coast will appear in the long-term if management practises do not change is useful in demonstrating the implications to the environment.

(c) Mapping of predicted shoreline change

Mapping of predicted shoreline change should be produced for the three timescales. This should be done through the appropriate GIS system in which all other data is stored. Due to the uncertainty associated with making such predictions it may be appropriate to map zones rather than single lines; this will still give an indication of which features are at risk under a policy of no active intervention. However, whilst such mapping will highlight areas that could be at risk, it will not convey what the coast will look like, or indeed any loss of beach assets.

Task 2.3: Define Features, Benefits and Issues

Aim

A central element of the identification and assessment of objectives is the theme review. This needs to identify key features along the coast and why these features are important to stakeholders, i.e. the benefits that the feature provides in terms of nature conservation, landscape and character, human environment, including current and future land-use, and heritage. Information from the theme review will in turn will be used as a basis for developing policy options and assessing the implications and thus suitability of these options.

Activities

The following activities have been identified.

(a) Produce Theme Review and map spatial data.

(b) Identify features and issues.

(c) Identify benefits provided by the features.

Delivery

(a) Produce Theme Review and map spatial data

This review will evaluate the data and information collected as part of Tasks 1.3 and 1.4 (Box 2.1). It is not envisaged that any further information/data will be measured at this stage, unless gaps are specifically identified through the stakeholder engagement exercise. This information should include spatial data, both national and local, which should be mapped using GIS. Appendix B identifies data sets available.

Box 2.1: List of themes to be reported upon as part of the theme review
Landscape and nature conservation
Landscape and visual factors.
Current status of designated sites and wildlife/earth heritage interests, i.e. what is there?
Targets, as set by Local Plans, Biodiversity Plans etc?
Historic environment
Current status (including marine archaeology).
Current and future land use
Commercial/industry (including port and harbour operations).
Residential developments.
Access to the shoreline.
Recreation, tourism and amenity interests.
Future land use/planning/targets, as set by regional spatial strategies/local development frameworks.

From this review, details regarding the key features of the SMP coastline can be described within each theme. The theme review should focus on addressing the following.

- Explaining the feature and its location. The location needs to be explicit in terms of the coastal environment, e.g. some SSSIs cover both cliff and foreshore and this needs to be identified.
- Why the feature is important, i.e. what benefits does it provide? Examples could include education resource/ value, landscape value, historical value (preserve or record), critical habitat, human, transportation, etc.

It should also establish the information that will be required to address subsequent assessments for objective evaluation (Task 2.6).

- At what scale it is important, i.e. local, national, international. Some features may have benefits at different levels of importance.
- If applicable, what could affect its value (sustainability) in terms of coastal change? e.g. a SSSI designated due to geological exposure requires that exposure to continue, i.e. some erosion to continue.
- The scarcity of the feature/ benefit i.e. is the benefit provided considered to be rare at any scale.
- Any potential for substitution should be included, if available, together with any objectives/targets set by other bodies.

Any gaps in the information should be identified and information that is not available highlighted, to clarify any uncertainty in the review.

The current SMPs developed management units in which to describe policy practice. These boundaries will be superseded by policy units, which are derived from the policy appraisal and may not correspond to those original boundaries. However former management units could be used as a useful location framework in which to initially define features, as in many cases the current SMPs already have information aligned to these units.

(b) Identify features and issues

The expected output from this task is a clear understanding of the features and issues along the coast. These are defined as follows.

Feature: This is something tangible that provides a service to society in one form or another, or more simply benefits society in some way by its very existence. Examples are included in Appendix G. It is the sustainable management of these features that adds value to our coastline in terms of social, economic and environmental value. It is recommended that the defined feature is location specific rather than being general to the SMP as whole; this will ensure that any risks to the feature can be clearly identified.

Issue: This is a concern or matter that an individual, group or body have, relating to the coast. Examples are included in Appendix G. At this point these will generally be related to perceptions about risks, not based upon any risk mapping from the SMP. It is important that all issues raised

are included for transparency so that stakeholders and others are able to see how that issue was dealt with.

Features and issues may be determined in two ways. Data gathered as a result of Task 1.4 will identify features, for example a specific habitat. Part of the theme review will be to assess any potential issues regarding that feature, for example there may be international legislation which requires protection of that habitat. Responses from stakeholders, as a result of Task 1.3, will generally identify issues, for example a concern over loss of tourism revenue at a specific location. Part of the theme review will be to determine what feature that issue relates to, for example a holiday park, and perhaps also the local beach.

It is possible that this might require an initial meeting with stakeholders and/or other organisations to review the information provided by them and confirm that the interpretation placed upon this information is accurate. Guidance on this stakeholder meeting, if required, is provided in Appendix A.

Subsequent to the definition of all the issues, the process must consider whether an issue is relevant to flood and coastal defence management, to identify those issues not directly relevant to the definition of SMP policy and therefore can not be addressed through the SMP process. However, these should still be recorded for transparency and a statement should be made explaining that these are not considered further by the SMP.

(c) Identify benefits provided by the features

To determine objectives for shoreline management, a key next step is to rationalise the issues relating to each feature and identify the benefit that each feature provides.

This **benefit** is defined as:

- **why** the feature is important, and
- **who** benefits from the features identified, e.g. individuals, local residents or wider society.

Examples of typical benefits are presented in the Appendix G.

The recommended approach focuses on the 'benefits' provided by a feature (rather than the feature itself), such as why people value or use the feature and hence its importance to them. For example, a nature reserve may help to preserve a priority habitat, so providing a benefit to the nation, but it may also provide a recreation outlet much like a sport centre provides a recreation function. Stakeholders may be key to the derivation of benefits which will promote further 'buy in' to the decision process. The stakeholder engagement strategy should reflect this by identifying appropriate meetings when this should be discussed.

In order to clearly define and appraise all the benefits associated with any one feature and associated issue, a table format (an example of which is shown below in Figure 2.2) has been developed based upon existing techniques used in environmental assessment (see Appendix G). This allows all issues associated with features to be clearly defined, why they are important and who benefits from them to be carefully recorded and managed, formalises the process for assessment, and ensures improved consistency of information along the coast.

Figure 2.2: Example Issues Table

Policy Unit	Feature	Issue associated with Feature	Flooding or erosion Issue?	Affect Policy?	Why is issue important?	Who are the beneficiaries?	Objectives
East Beach to Selsey Bill	Residential Properties	Potential loss of or damage to >100 houses through flooding or erosion.	Yes	Yes	Homes for people. Anxiety and stress to owners and occupiers facing loss. Devaluation of neighbouring property. Impacts on community cohesion **(socio-economic)**	Sub-regional community, Individual Property Owners	Prevent loss or damage due to erosion or flooding
	Commercial interests	Potential loss of business at Selsey (sic) Crab and Lobster Co resulting from disruption to shellfishery	Yes	Yes	Importance to local economy **(socio-economic)**	Local economy.	Prevent damage to fishery – NB extends beyond MU1/MU2
	Amenity open space	Potential threat to recreation areas from flooding or erosion	Yes	Yes	Important amenity areas for local residents and visitors to area **(socio-economic)**	Local community and tourists.	Prevent loss due to flooding or erosion
	Bathing beach	The way in which the coastline is managed may have an adverse effect on the value of the beach	Yes	Yes	The beach is a major asset in attracting tourists and an important recreational feature of the town **(socio-economic)**	Regional economy, businesses, residents and local community	Maintain a beach suitable for bathing / recreation
	Selsey, East Beach SSSI (geol)	Way in which the coastline is managed may impact on geological value of beach by erosion or burial.	Yes	Yes	Geological value as SSSI, GCRS, RIGS **(environmental)**	National community	Avoid accelerated erosion or deposition
	Selsey, East Beach vegetated shingle	Way in which the coastline is managed may impact on stable shingle.	Yes	Yes	Biological value as national BAP habitat **(environmental)**	National community	Maintain or increase area of stable shingle
	Archaeology	Potential loss or damage of valuable features through erosion	Yes	Yes	A number of Archaeologically Sensitive Areas extending to most of the seafront of Selsey Bill **(heritage)**	National community.	Prevent loss or damage due to erosion
	Selsey conservation area	Potential loss of or damage to heritage buildings through flooding or erosion.	Yes	Yes	Conservation Area with Listed buildings **(heritage)**	National community.	Prevent loss or damage due to erosion or flooding

Task 2.4: Define Objectives

Aim

To assist in policy appraisal, shoreline management objectives need to be set using the information generated by Task 2.3. This needs to be undertaken in a transparent and understandable manner, leading to a clear and auditable policy decision-making process.

Activities

The following activities have been defined.

(a) Determine objectives.

(b) Review and agree issues and objectives with stakeholders.

While stakeholder involvement in developing the objectives is inherent to the successful outcome of the policy decision making process, it is good practice to develop the issues and benefits prior to any stakeholder meeting so that stakeholders may review and comment upon those already identified and add to the process started in Task 2.3.

Delivery

(a) Determine objectives

The SMP policy appraisal process needs to be guided by a set of relevant objectives that apply to each SMP area. These objectives fulfil two roles; firstly they help inform the development of policy options, and secondly they help provide a focus for consensus amongst the SMP stakeholders on the various issues, sometimes conflicting, that are raised during the process of plan formulation.

For each feature, where potential flood or coastal erosion related issues have been identified, a specific **objective**, which can be used in policy development (see Stage 3), should be defined based on the relevant specific issue and the benefits provided by that feature. Appendix G provides further guidance and example objectives.

It is unlikely that any technical objectives will be identified, i.e. relating to coastal processes. This is because the objective should relate to the feature which may be affected. Technical aspects are more likely to relate to the implementation of policy, rather than policy setting.

(b) Review and agree Issues and Objectives with stakeholders

A central part of this approach is the involvement of stakeholders in the definition of issues and objectives. This involvement is intended both to ensure that the objectives have been correctly interpreted from the issues raised and to facilitate the later understanding and acceptance of management policies developed upon those objectives. The first stage of involvement will be as part of Tasks 1.3 or 2.3 whereby some issues may be identified through the questionnaire replies and any meetings. However, it is recommended that stakeholders are subsequently invited to

comment on the issues/benefits and objectives defined within the issues table to:

- review the features identified;
- confirm that all relevant issues have been included;
- check that the benefits identified are understood and that beneficiaries have been correctly identified;
- check that the objectives are a good representation of the requirements of the beneficiaries.

It may be also necessary to arrange additional meetings with larger organisations, such as Natural England, Environment Agency etc., if required to engage a wider number of their personnel.

As part of this exercise it is recommended that a record database of responses is maintained.

Task 2.5: Identify Flood and Erosion Risks

Aim

This task is to provide a baseline assessment of risks from coastal erosion or flooding to features. This can then be used in the evaluation of objectives and development of policy scenarios.

Activities

The following activity has been identified.

- Identify risks to individual features from flooding or coastal erosion under a scenario of 'No Active Intervention'.

Delivery

The mapping of predicted shoreline change for no active intervention (Task 2.2) can be used as a baseline against which features can be identified as at 'risk' from flooding or erosion.

For the purposes of the SMP it can be assumed that, should flood defences be breached, the whole flood plain can be defined to be 'at risk'. The flood risk areas should be based on information produced by the Environment Agency, e.g. Flood Mapping.

Erosion and instability risks leading to the loss of properties and agricultural land, can be quantified using the GIS-based Modelling and Decision Support Framework tool (MDSF, see Appendix C) for the three defined future points in time; years 2025, 2055 and 2105. This can output general economic data on the value of assets lost. Where there are existing manmade or natural defences, their residual life (as assessed in Task 2.1) should be used to inform the timing of possible flood or erosion risk.

Any features that have a spatial definition can also be analysed using a similar GIS-based approach. However, it is more difficult to determine impact on some conservation features which relate to quality of habitat rather than area; for example some may actually be improved by the process of erosion. The theme review (Task 2.3) will provide guidance on how natural processes can impact either detrimentally or beneficially to the feature.

Task 2.6: Assess Objectives

Aim

To assess the relative importance of the objectives set as part of Task 2.4, which may help to define policy scenarios and provide criteria for policy evaluation.

Activities

To assist in the development of policy, there is a need to:

(a) evaluate the relative importance of the objectives;

(b) review and agree the objective evaluation with stakeholders.

Delivery

(a) Evaluate the relative importance of the objectives

The relative importance of objectives can be assessed based on the significance of the benefit offered by a particular feature. For example the feature may be a European Site, designated for its rare habitat, and thus is internationally important.

To ensure transparency and auditability, the basis behind this evaluation should be carefully recorded and made clear. The recommended approach is to use the issues table, as suggested for Task 2.4. An example of how this table could be extended is included in Appendix G, whereby each benefit is assessed systematically at the SMP scale, as opposed to focusing upon the local scale, using a series of questions.

- At what scales (spatial/temporal) is the benefit important?
- What is the importance of the benefit, i.e. the impact if this feature/ benefit were lost tomorrow?
- Is there enough of the benefit?
- Can the benefit be substituted?

Guidance on these questions is included in Appendix G, but the information itself should be derived through the theme review (Task 2.3). This needs to be sufficient to support the answers to these questions. An example output is shown below in Figure 2.3.

It is then possible to classify objectives on the basis of the type of benefit (e.g. housing, conservation, tourism) and the answers to these four questions. This will provide a means by which relative importance of the objectives can be described, and this classification can be used to 'rank' the objectives. However, it should not be assumed that ranks between different themes are directly comparable, i.e. one town can be compared to another town, but the importance of a town can not be directly compared to that of a designated conservation site. Therefore application of any ranking approach must be undertaken with a degree of care.

Figure 2.3: Example output of objective classification

Why is issue important	Who are the beneficiaries?	Objectives	Scale	Importance	Enough?	Substitution	Rank[1]
Homes for people. Anxiety and stress to owners and occupiers facing loss. Devaluation of neighbouring property. Impacts on community cohesion **(socio-economic)**	Sub-regional community, Individual Property Owners	Prevent loss or damage due to erosion or flooding	Sub-regional	High	No	Yes	2H
Importance to local economy **(socio-economic)**	Local economy.	Prevent damage to fishery – NB extends beyond MU1/MU2	Local	Medium	No	Yes	5C
Important amenity areas for local residents and visitors to area **(socio-economic)**	Local community and tourists.	Prevent loss due to flooding or erosion	Local	Low	No	Yes	4R
The beach is a major asset in attracting tourists and an important recreational feature of the town **(socio-economic)**	Regional economy, businesses, residents and local community	Maintain a beach suitable for bathing / recreation	Sub-regional	Low	No	Yes	4R
Geological value as SSSI, GCRS, RIGS **(environmental)**	National community	Avoid accelerated erosion or deposition	National	High	No	No	2E
Biological value as national BAP habitat **(environmental)**	National community	Maintain or increase area of stable shingle	National	High	No	Yes	3E
A number of Archaeologically Sensitive Areas extending to most of the seafront of Selsey Bill **(heritage)**	National community	Prevent loss or damage due to erosion	National	High	No	No	2A

Note 1: Rank class 1 is highest priority and the letter refers to the theme, eg H = housing, C = commerce, E = environment. See Appendix G for more details.

Ranking of particular objectives within their relative themes can be a useful tool for developing the preferred management policy. Whilst key policy drivers may be immediately apparent (see Task 3.1), ranking can help to identify other 'primary objectives', these being distinguished as those that have a higher importance. Ensuring that preferred policy meets those most highly ranked objectives, or indeed using those highly ranked objectives as policy drivers, could lead to a definitive policy selection. However one of the dangers of this approach is that the selection could be too prescriptive with the more sustainable policies not being selected. Experience to date has found that policy selection can be made without applying these techniques, for example through appropriate engagement with stakeholders. However, the use of ranking mechanisms to select policy should be left to the discretion of the CSG. Further guidance is included in Appendix G.

(b) Review and agree the objectives evaluation with stakeholders

It is recommended that the completed objective evaluation is reviewed by stakeholders to establish whether there is agreement on the relative importance of the different objectives. This could be combined with the stakeholder review of the issues and objectives definition, identified as part of Task 2.4, possibly through a stakeholder meeting or combined with reviewing the policy drivers as part of Task 3.1.

Any stakeholder meetings should focus on the more contentious issues to promote understanding and address any possible conflict between objectives that may affect policy decisions rather than time spent on areas where general consensus already exists. The outcome of the engagement with stakeholders would be an agreed evaluation of objectives that can be taken forward to the policy appraisal stage (Stage 3).

Stage 3: Policy Development

Porthleven Cliffs

Figure 3.0 Stage 3 Flow diagram; Part 1: Task 3.1

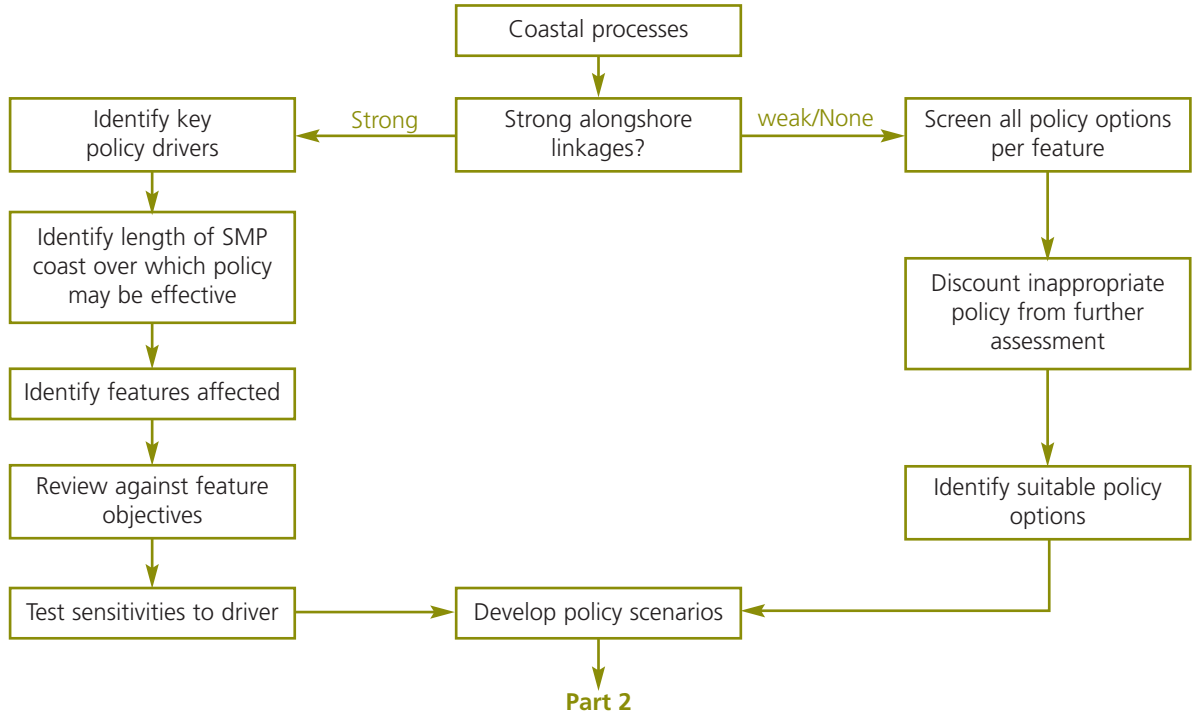
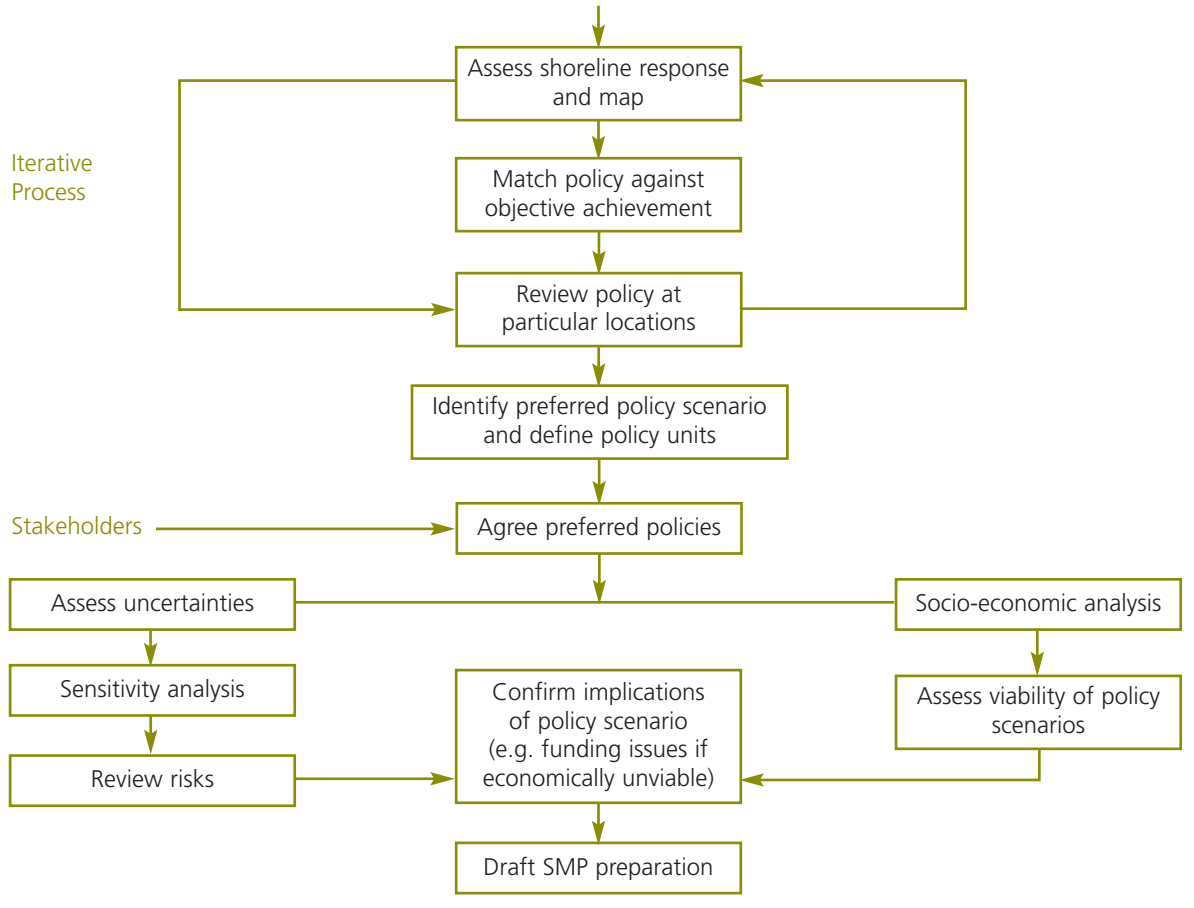


Figure 3.0 Stage 3 Flow diagram; Part 2: Tasks 3.2 to 3.5



Task 3.1 Define Policy Scenarios

Aim

The recommended approach for development of a sustainable plan is through the assessment of policy scenarios, rather than considering locations in isolation. The aim of this task is to identify the appropriate combinations of policies to be appraised for the whole SMP frontage, as set out in Part 1 of Figure 3.0.

Activities

The activities involved in this are:

(a) identify key policy drivers;

(b) identify potential policy options;

(c) develop policy scenarios for assessment.

Delivery

(a) Identify key policy drivers

A **key policy driver** is a feature that has sufficient importance that it potentially has an overriding influence upon policy selection at the wider SMP scale. Sustaining these features and the benefits derived from them will often be a key requirement at a national or regional level. These drivers will give firm direction to the choice of possible policies both at that feature location **and** at other locations which are in some way interrelated.

Given the appreciation of interactions along the coastline (developed from the baseline scenarios appraisal, Task 2.2), and the identification of primary objectives (e.g. from the classification of all feature objectives, Task 2.4), any key drivers for policy selection will become apparent. The first step in this process is to identify those features within the SMP as a whole that could have this overriding influence upon policy and are potentially at risk, i.e. features that are key policy drivers. This is dependant on the nature of the feature, for example nuclear power stations.

The key driver may be time dependent. For example, due to its national significance, a gas terminal may currently need a hold the line policy, but depending on the lifetime of the asset, this requirement may be unnecessary in the long-term.

These key drivers may well be identified as a local feature objective but meeting that objective could have far wider impact in terms of policy selection elsewhere along the coast. For example, conserving a SAC environmental habitat which relies on constant sediment feed could drive policy for significant lengths of the up-drift shoreline. Therefore once any key policy drivers have been identified, the frontage over which they will affect policy selection will also need to be defined such that these policies are compatible with the requirements for that key policy driver.

There are no specific criteria which define a key policy driver, rather it is dependant upon the nature of specific SMP coastlines and associated objectives. This approach may result in the identification of a single preferred policy for some locations, or the discarding of clearly

inappropriate policies at others. It may be that there are no key policy drivers associated with a particular SMP frontage.

It is recommended that a decision on what constitutes a key policy driver is undertaken in discussion with the CSG and other stakeholders, in order that their views on what should drive policy selection can be taken into account.

(b) Identify potential policy options

In addition to the policy drivers, the local feature objectives classified in order of their relative importance under Task 2.4 are an important consideration in any assessment of probable appropriate policy. A screening process using combinations of the key policy drivers and these objectives can be used to define which policy options should be examined at any location.

Objectives for a particular feature may appear to point towards a single appropriate management policy for the shoreline at that location. However, this may not necessarily be the only policy that should be appraised for that frontage (for all three epochs or in all policy scenarios), as it may be influential upon, or influenced by, alternative policy options for adjacent frontages. For example, where down-drift areas are reliant upon a continued feed of beach sediment, then the benefits of achieving several objectives at those locations may outweigh the benefits of local protection to achieve one objective at the feature in question. In this way alongshore interdependencies are recognised.

Therefore, for those areas where no key policy driver is identified, an initial brief review of all generic policy options may be appropriate, considering not only the defined objectives but also their technical feasibility, and likely economic justification. An example output is shown in Figure 3.1 below. In respect of the latter, a broad assessment of assets potentially at risk can be useful. The possible benefits and opportunities arising from each policy option in relation to the objectives for a frontage should be identified for each of the three epochs. This initial screening can identify which policy options are not viable for a particular feature and should not be the focus of further scrutiny. Reasons for discounting options will need to be clearly set out in the assessment.

Figure 3.1: Initial review of policies

Hythe Ranges (4C10)

Summary description: Largely undeveloped area backed by dense urban development, used by the MoD as a firing range. Part of vast Dungeness flood risk area.

Position of 'the line': Landward edge of beach ridge.

Policy	Years 0 – 20 (2025)	Years 20 – 50 (2055)	Years 50 – 100 (2105)
Hold the Line	To be appraised. Will protect the economic assets of the frontage and backing flood risk area.		
Advance the Line	No benefits, and potential environmental impacts, would result from seaward movement of defences.		
Managed Realignment	To be appraised for potential long-term technical and environmental benefits. Various realignment positions to be considered.		
No Active Intervention	Limited potential process benefits and potential uncontrolled inundation of vast flood risk area.		

(c) Develop policy scenarios for assessment

Having identified potential policy options for each section of shoreline, e.g. 'hold' from A to B, 'hold' or 'realign' from B to C, 'no active interventions' from C to D, etc, these need to be combined into 'policy scenarios' for appraisal.

The development of policy scenarios is complicated by the fact that these are two dimensional; they need to include for any changes over time at each location as well as to account for interactions between locations along the coast during any time period. Therefore, appropriate scenarios are not always apparent until the interactions of individual policies have been tested. Consequently this will often be an iterative process.

The scenarios defined will, in part, depend upon the alongshore processes operating on the shoreline. Where strong linkages and interdependencies exist it will be important to define combinations of policies for the linked lengths of coast (possibly the whole SMP) that take account of these linkages. Where there are weak or no alongshore linkages between frontages (e.g. hard rocky coast), it will not usually be necessary to define scenarios for the whole coast, rather scenarios just for those sections where there are some interactions. Indeed, some locations may even be considered in isolation.

The number of scenarios developed needs to reflect the range of policies that may be needed to sustain the SMP coastline and meet the stakeholders' aspirations. However, it is not necessary to attempt to appraise all possible combinations; rather the scenarios should be tailored to gain maximum understanding of the implications of the alternative policies. Where there are several combinations of alternatives to be considered, a rational approach may be to first consider broad scenario types outside of the areas dictated by the key policy drivers. For example, one scenario has an emphasis upon maximising protection, whilst another has an emphasis upon maximising natural functioning of the coast. Whilst neither may ultimately be the preferred solution, they provide further useful information on the interactions taking place and the impacts of policy options. From this, other potentially suitable scenarios can be developed and tested. In certain circumstances the objectives assessment and policy drivers may lead to the development of only one scenario for the SMP, though it is considered that this situation will be rare.

Stakeholders can also assist in this process of developing appropriate scenarios and might be engaged during the iterative process. The identified policy scenarios should be agreed with the CSG before proceeding to assessment.

Task 3.2 Policy Scenario Assessment

Aim

Having defined scenarios of possible appropriate policies for future shoreline management, it is then necessary to appraise how the coast would evolve under these policy combinations and the implications of this for important features along the shoreline.

Activities

To appraise the achievement of shoreline management objectives by each policy scenario the following activities will be required.

(a) Assess shoreline interactions and responses.

(b) Assess achievement of objectives.

Delivery

(a) Assess shoreline interactions and responses

The impact of each scenario on future shoreline response will have to be tested for all three epochs. This should follow the methodology defined for the baseline scenario assessments (Task 2.2).

Where there are strong alongshore linkages, full scenarios are likely to have been developed and should be appraised as a whole in terms of shoreline interactions and response. Where there are weak alongshore interactions it may be appropriate to assess a frontage in isolation. The assessment will need to consider the affects of different combinations of policies on the linkages and interdependencies between frontages. The key outputs from this exercise will be the definition of the likely form and predicted position of the shoreline for the years 2025, 2055 and 2105.

There is a need to also consider in broad terms the implementation approach that is likely to be advocated. This is an important factor as it can have a significant influence upon the impact that the policy has on adjacent frontages. For example, the down-drift consequences of a 'hold the line' policy may differ if this is to be implemented through provision of a linear defence (e.g. a seawall), or if it is envisaged that this will be implemented through beach stabilisation (e.g. breakwaters or groynes, possibly including recycling). It also requires the technical viability of the proposed policy to be considered. For example, although a beach is desirable, it may be technically impossible to hold in 50 to 100 years time. An important consideration in this assessment will be the possible long-term impacts of climate change and sea level rise. Over the century timescale, these may include the complete loss of beaches due to intertidal squeeze and the need for substantially larger defences to maintain the current standards of protection.

The objectives for each location should also be reviewed to consider whether they indicate a preferred method of implementation. For example, tourism objectives linked to a beach would infer that beach management is a necessary requirement to meet that objective whereas other solutions would not; this is the advantage of assessing benefits (Task 2.3) in that actual requirements are understood.

(b) Assess achievement of objectives

For each scenario it will be necessary to appraise the extent to which each of the objectives for individual locations is achieved. In most instances, consideration of whether an objective is met will be based upon the predicted position (e.g. the extent of retreat) and form (e.g. existence of a beach) of the shoreline. Initially, there is no need to differentiate between objectives of differing importance or the key policy drivers; this process will be the appraisal and recording of the impacts of predicted shoreline evolution on local objectives. For presentation purposes this assessment may be recorded as simple yes/no/partial or tick/cross, etc, but it is important that how the achievement is met is also described to ensure transparency of the final decisions. An example output is shown below in Figure 3.2.

For some objectives (e.g. related to protection of property) it may be necessary to identify the number of assets at risk under certain scenarios. Where this information is not available from other documents, e.g. coastal strategies, then the MDSF tool should be used to do this as appropriate, although given the available datasets this is likely to be restricted to property and agricultural land losses. It is also possible to use the MDSF to economically evaluate these losses, although it is unlikely that this value will determine objective achievement.

It is conceivable that through this assessment certain scenarios do not achieve the objectives associated with all of the key policy drivers. If this is the case, the scenario should be reviewed and, if possible, revised to create a scenario where the drivers are achieved, using an iterative process as shown in Figure 3.0 Part 2. If not possible it may be appropriate to discount the scenario from further consideration. In extreme circumstances it may be necessary to re-evaluate the justification for the key policy driver and accept that this cannot be achieved, in which case mitigation measures may need to be identified.

Task 3.3 Preferred Scenario Identification

Aim

To identify the scenario that best achieves the defined shoreline management objectives and is most sustainable, i.e. technically feasible, environmentally acceptable and socio-economically viable.

Activities

For each scenario the outcomes of the objective achievement assessment should be reviewed to consider which combination of policies represents the best approach to meet objectives throughout the whole SMP frontage.

(a) Review scenario testing to agree selection of preferred policy scenario and policy units.

(b) Define policy units.

(c) Agree preferred policies.

Delivery

(a) Review scenario testing to agree selection of preferred policy scenario and policy units

If a scenario is identified as preferred for the SMP area as a whole, but does not meet the primary objectives at certain locations or has a significant detrimental impact on shoreline response, it may be appropriate to review the scenario at specific locations. The implications of any possible change to the scenario will then need to be assessed. This will be an iterative process but it is not expected that a full re-appraisal of the whole frontage will be required each time, rather a review based on the existing shoreline response outputs. This should lead to either the identification of an alternative preferred policy for parts of the scenario or confirmation that the original policy will be promoted and that the impacts upon other features will need to be mitigated.

For the frontages where there are little or no alongshore linkages, selection may be based purely on optimising the achievement of local objectives. The review on how each policy scenario achieves the objectives, undertaken in Task 3.2, drives policy scenario development. If there is no obvious policy selection through the previous assessments then the objective classification may be used to help identify the preferred policy. By identifying the relative importance of each objective through ranking its classification, the number of primary objectives achieved by particular policies could lead to the preferred policy scenario selection. There are various ways in which the achievement of ranked objectives for each scenario can be assessed to identify the preferred scenario, and a number of tools and techniques are described in Appendix H.

The analysis should result in the definition of the most appropriate policy scenario to maximise achievement of the objectives for the whole SMP shoreline, rather than considering each objective in isolation. It is possible, that for individual frontages more than one scenario option may be considered appropriate, as the overall achievement of the objectives for a frontage is too similar to enable a choice to be made without a more detailed assessment. This need should be identified in the policy statement provided in the SMP document.

To ensure that this process is auditable, the appraisal should be recorded in full to show how and why the preferred scenario has been selected. For example, the issues table recommended for use in developing the SMP can be extended to show how different scenarios meet the various objectives for each feature. Figure 3.2 below shows a possible example output.

The CSG should review the preferred scenario output and agree in principle the preferred policy scenario before proceeding further.

(b) Define policy units

Once the preferred scenario/policies have been defined, Policy Units can be identified for delivery of the SMP. These are simply frontages for which a discrete shoreline management policy applies. These should be divided to reflect changes in policy over time and significant differences in policy implications.

Figure 3.2: Example scenario development & objective matching assessment

Feature	Objective	Rank [1]	0-20 (up to 2025)				20-50 (up to 2055)				20-50 (up to 2105)					
			NAI		Hold		NAI		Hold		NAI		Realignment		Hold	
			Defences fail, recycling stops		Maintain & improve existing defences		No defences		Maintain & improve existing defences		No defences		Secondary defence		Improve existing defences	
Coastal Landscape	Maintain landscape quality within High Weald AONB area	1L	Y	Improved with 'natural' shoreline	P	Maintain as is, but increased defences	Y	Improved with 'natural' shoreline	P	Ongoing defence, maintaining existing situation	Y	Improved with 'natural' shoreline	Y	Improved with 'natural' shoreline	N	Hard defences, narrowing beach, with landscape impacts
Properties in Cliff End and Winchelsea settlements	Prevent damage to / loss of residential properties due to flooding or erosion	3H	N	Properties will be lost through flooding and erosion	Y	No loss	N	Properties will be lost through flooding and erosion	Y	No loss	N	Properties will be lost through flooding and erosion	N	Properties will be lost through flooding and erosion	Y	No loss
Infrastructure	Maintain services to properties	4I	N	Infrastructure will be lost through flooding and erosion	Y	No loss	N	Infrastructure will be lost through flooding and erosion	Y	No loss	N	Infrastructure will be lost through flooding and erosion	N	Infrastructure will be lost through flooding and erosion	Y	No loss
Pett Levels (SSSI & SAC)	Maintain and / or improve existing habitats	2E	Y	Naturally functioning coastline, habitat compensation	P	Designated sites maintained, adverse affects on coastal processes	Y	Naturally functioning coastline, habitat compensation	P	Designated sites maintained, adverse affects on coastal processes	Y	Naturally functioning coastline, habitat compensation	P	More naturally functioning coastline	P	Designated sites maintained, increasingly adverse affect on coastal processes

Note: Y = Yes, P = Partial, N = No

Note 1: Rank class 1 is highest priority and the letter refers to the theme, eg H = housing, C = commerce, E = environment. See Appendix G for more details.

(c) Agree preferred policies

At this stage, it will be appropriate to review the scenario testing outputs and selection of the preferred scenario with the CSG. It should not be expected that this process will result in the unanimous agreement of all stakeholders to the preferred scenario, as it is probable that several of the objectives will not be achieved. Rather, it will ensure that the assessment of objectives under different evolution scenarios and the selection of the preferred scenario are clearly understood. If the stakeholder review identifies some error or omission in the policy appraisal process it will be necessary to revisit the previous tasks to address this.

It is important that the CSG recognise the possible implications of the preferred policies at particular locations, and the need for a general consensus on the plan that should go to consultation. This review of the preferred policies will give the opportunity to identify errors at an early stage, reassure consultees and reinforce the arguments for adoption. Care taken at this stage may prevent relatively minor points of difference growing disproportionately once the draft SMP is released for public consultation.

Task 3.4 Confirm Preferred Scenario

Aim

The policy scenarios will be developed and appraised using the same criteria and level of analysis. Whilst this should have reflected any known uncertainties, the robustness of the preferred plan needs to be confirmed. These assessments will only be undertaken for the preferred policy scenario.

Activities

For the preferred scenario it is recommended that the following activities are undertaken to confirm its viability and sensitivity to changes to the assumptions made.

(a) Sensitivity testing: Identify uncertainty in key variables and potential impacts on preferred policy scenario.

(b) Socio-economic assessment: consider costs/benefits also cumulative human and natural implications for preferred policy scenario.

Delivery

(a) Sensitivity testing

It will be important to highlight any uncertainties or risks which may affect the policy decision, and the impacts of variations in these factors.

Sensitivity testing should be undertaken to identify the variable(s) that contribute most to uncertainty in predictions and, hence, are the most critical to the preferred policies. The extent of this testing should not be limitless but would be expected to include possible anticipated

changes in development, e.g. harbour construction or future cessation in use of a site, and uncertainty regarding natural features, e.g. the influence of offshore banks. It would not be appropriate to speculate regarding changes in social attitudes or socio-economic policy. The level of testing needs to be appropriate to the potential problem, therefore in many cases this can be based upon interpretation from the assessments already carried out. Only occasionally is it expected that a more detailed analysis will be required, for example if the sensitivity determines a major uncertainty relating to the implementation of policy in the short-term.

This testing provides robustness to the SMP proposed scenario in three ways.

- It shows which of the uncertainties affect the decision most, thus identifying where further work could be targeted to improve the basis of the decision, or where decisions might need to be flexible in the future (for example responding to extreme events).
- It provides the decision-makers with a good feel for the overall robustness of the chosen option.
- It can highlight inconsistencies between assumptions made about the individual factors affecting the choice of option.

Based on the first of these three points, this appraisal can be used to identify further study requirements, to either support development of the next SMP or possibly to resolve the policy decision where current understanding is insufficient to draw definite conclusions.

(b) Socio-economic assessment

The socio-economic status of the preferred policies should be appraised. Best available information should be used (e.g. existing coast defence strategies), however by using appropriate broad scale costs for defences and output from MDSF, new assessments for policies can be made (see Appendix C). The socio-economic assessment should address whether or not each policy is:

- clearly economically viable;
- clearly not economically viable; or
- of marginal viability.

In general, the calculation of 'present value' is more useful for the choice of solutions and is required in strategies, and it may not be necessary for SMPs especially if actions are not required until the second or third epochs. However, should the data be available then it could be used as part of the assessment.

Where appropriate strategy or scheme socio-economic appraisals already exist to support policy selection (for a particular Policy Unit) it will not be necessary to undertake a new assessment. However, these existing appraisals may not fully justify the policy recommendations where the existing studies do not cover the 100 year appraisal period or they have considered different options to the SMP recommendation.

Where new assessments are required, various sources for defence costs exist, although default values based upon the Environment Agency's cost database are provided in Appendix C. Costs should include Optimism Bias in line with Treasury Guidance. Consideration must also be given to the substantial increase in defence costs that may arise to accommodate climate change.

The MDSF results for the preferred scenario can identify the number and value of properties at risk under this scenario, thereby giving broad asset values. This may only include commercial and residential damages so may not give a complete economic assessment. This is due to other features, such as infrastructure, not being included unless the additional information is available or collected and added. However, comparison of these broad scale benefit assessments and costs will often be sufficient to establish the economic viability of the preferred scenario on each section of the SMP shoreline.

It must be recognised that the justification for a particular policy is not necessarily dependant on economic viability as impacts on other benefits may be considered more important (e.g. holding existing defences to sustain a designated habitat). Any policies where this is the case could be considered economically insufficient under current Treasury guidance. However, it may be that the broad brush assessment does not consider other tangible assets that may, if included, justify economic viability of a particular policy. Attempting to evaluate these other benefits and detail them within the SMP Action Plan may be the focus for future study (Task 6.2).

Elsewhere, it may be that a policy of hold the line is rejected, whether economically justified or not, if it is detrimental to the achievement of other objectives, for example depleting down-drift locations of sediment supply. Where works are not having a detrimental effect but are simply not economically justified, this might be identified for private funding of works if this is the intention as they may be permitted under such circumstances.

Task 3.5 Draft SMP Document Preparation

Aim

To clearly present the preferred plan and the associated policies for review and consultation.

Activities

To facilitate a clear understanding of the preferred plan it is important to provide documentation that clearly identifies the policies and their implications, and provides sufficient details for the rationale behind selection to be transparent in both the:

(a) draft SMP document;

(b) SMP appendix preparation.

Delivery

(a) Draft SMP document

Application of the developmental approaches and requirements presented in this guidance will help to achieve national consistency in SMP quality and output format. Whilst the level of detail applied to the analysis and development of the policies may vary between SMPs, this does not necessarily need to be reflected in the main Plan document. This will often be aimed at a wide audience and will benefit from being concise, yet sufficient to justify the preferred plan policies and identify the implications. All supporting information, including alternatives considered, can be provided in appendices.

The recommended standard structure for presentation of the plan will assist national bodies such as Defra, Environment Agency and Natural England in finding information and understanding the plan content. This also applies to local authorities whose district spans two SMPs who will have consistency in style for their elected members, planners and public.

It is recommended that the draft document corresponds as closely as possible to the final SMP document (see Task 5.3 and Appendix I). The proposed content of the SMP document (provided in Appendix I) intends to ensure that all information necessary to convey the plan and rationale behind it is made available in a logical and clear manner (Box 3.1). This refers to the main SMP document; however the CSG may also consider it appropriate to produce other materials for consultation (see Task 4.3).

Box 3.1: Draft plan content requirements

- Details on the objectives of an SMP and its status.
- A non-technical explanation which gives background to development of the plan (at the discretion of the CSG).
- An overview of the preferred plan and its implication for the SMP as a whole.
- Statements for each policy unit outlining:
  - details of the policies and their implementation;
  - justification for the policies;
  - implications for local objectives.
- Mapping to support the statements.

In some locations (i.e. Wales) consideration should be given to producing material in two languages. These needs should be defined by the CSG to reflect local requirements.

The preparation of mapping to illustrate the preferred scenario can be facilitated by the use of the MDSF system, which provides a tailored GIS capable of handling all the geographical data required to produce these maps.

Reference should also be made to the three 'pilot' SMPs for examples of the level of detail and language appropriate for this document.

Example outputs of the Policy Statements are given below in Figure 3.3 a and b and example mapping is shown in Figure 3.3c.

It may also be considered desirable to include a draft Action Plan (see Task 5.2) as part of the documentation for consultation. This is at the discretion of the CSG. If this approach is taken it should be highlighted that the 'Actions' cannot be finalised until the final plan is defined. It is also important that the policy recommendations and long-term plan remain the focus of the SMP consultation, rather than short term works, etc.

Figure 3.3a Example Policy Statement

Location reference: Hopton
Policy Unit reference: 3b20

Summary of Plan Recommendations and Justification

Plan:

There is a requirement to avoid a promontory being formed along this section, which would impact on the sediment supply along this coast and be detrimental for the defence of adjacent areas. Therefore in the long-term a retreat policy will be implemented, which would improve sediment input and throughput. This would, however, impact on seafront properties at Hopton; therefore measures need to be put in place to manage the risk and potential relocation/ mitigation of loss of properties and land. Due to the seafront assets, in the short-term it is recommended that this retreat be managed through continued maintenance of existing defences, whilst technically and economically acceptable.

Policies to implement Plan:

From present day:	The policy for the immediate future is to **hold the line** through maintaining the existing defences until they reach the end of their effective life (i.e. minor repairs may be carried out during this period). However, these defences should not be enhanced or replaced. With maintenance, the concrete seawall along the southern section of this frontage is estimated to have a residual life of 15 to 20 years, although the timber revetment and groynes may fail before this. This policy will continue to protect assets so that measures can be put in place to manage or mitigate for loss. This policy will not be detrimental to the long-term Plan due to the rapid nature of shoreline response along this coastline once defences are no longer in place.
Medium-term:	Once the existing defences fail, it would not be economically viable or technically appropriate to replace them with similar structures. There is also a need to ensure sediment input to adjacent shorelines to enhance defence there. Therefore the medium-term policy is to allow the coast to retreat, through a policy of **no active intervention**. Measures will need to be in place to manage risks along this frontage, as any retreat will result in the loss of cliff top land and mainly holiday properties.
Long-term:	The long-term policy is to allow coastal retreat, through **no active intervention**, as the most sustainable option. This will ensure sediment is provided to beaches both here, thus not accelerating erosion, and to adjacent coasts. Whilst further loss of some property will occur, the main village of Hopton is expected to be mostly unthreatened by retreat over the next century.

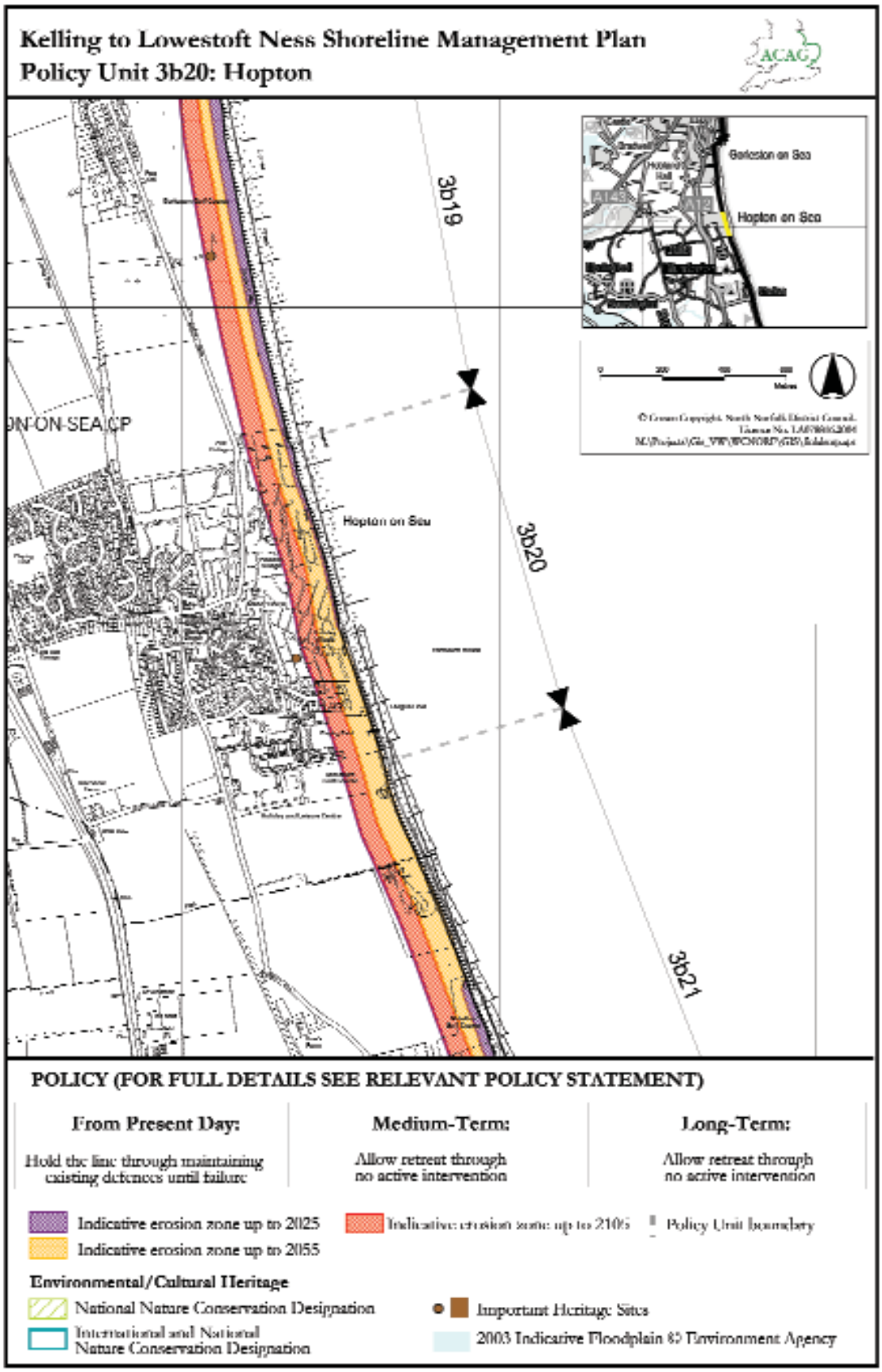
Figure 3.3b Example of Predicted Implications Table

Location reference: Hopton
Policy Unit reference: 3b20

Predicted Implications of the Plan for this Location

Time Period	Property & Land Use	Nature Conservation	Landscape	Historic Environment	Amenity & Recreational Use
by 2025	No loss of cliff top land or property.	No nature conservation objectives identified.	No landscape objectives identified.	No heritage objectives identified.	No loss of community or tourist facilities. Beach present, but likely to be narrower.
By 2055	Loss of less than 5 seafront properties and heart of village not affected by erosion. Loss of seafront tourist accommodation and associated infrastructure.	No nature conservation objectives identified, but promotion of naturally-functioning coast.	No landscape objectives identified.	No heritage objectives identified.	Heart of village not affected by erosion – but playing fields lost along coastal strip. Loss of tourist facilities associated with Holiday village. Loss of promenade. Beach present, but existing access lost.
By 2105	Cumulative loss of less than circa 15 seafront properties, but heart of village not affected by erosion. Further loss of seafront tourist accommodation and associated infrastructure.	No nature conservation objectives identified, but promotion of naturally-functioning coast.	No landscape objectives identified.	No heritage objectives identified.	Heart of village not affected by erosion – further loss of tourist and recreational facilities along seafront. Loss of promenade. Beach present, but existing access lost.

Figure 3.3c Example of Mapping



(b) SMP appendix preparation

To assist in dissemination of the SMP it will be important that appropriate mapping supports all reporting. As a minimum, it is recommended that in addition to the policy mapping undertaken in Task 5.2, maps illustrating each of the following themes should be included in the SMP.

- Baseline no active intervention risk mapping.
- Historic environment.
- Landscape designations.
- Nature conservation.

Base mapping (e.g. OS data) should be the latest available version, and the source and date identified.

The proposed document structure identified in Appendix I includes a number of technical appendices containing all the supporting information from the appraisals undertaken during development of the SMP. It is anticipated that most of this will be produced as the direct result of the tasks carried out in developing the SMP. It will be important that the final SMP documentation has all this information to ensure the SMP has a full and auditable trail to the preferred scenario to facilitate its review in the future.

However, during the consultation (Stage 4) it is unlikely that this information will be required if the main document is clearly presented; indeed it may distract consultees from the main document and create an overly large document. As such, it is not necessary for all appendices to be provided as part of the documentation for consultation.

Data and derived data outputs include the scenarios tested for defence options and the spatial data and maps illustrating the themes and textual reports. The plan and maps generated should be produced in formats that facilitate storage, reproduction and also distribution over the internet.

Stage 4: Public Examination

Marina at Hamford Water

Task 4.1: Gain Approval in Principle

Aim

In many instances it will be necessary to have approval in principle to the draft SMP before this may be issued for public consultation. The purpose of this task is to obtain approval where required from those who will formally adopt the final plan.

Activities

The following activity may be required.

- Consult elected Council members/Regional Flood Defence Committees.

Delivery

(a) Consult elected Council members/Regional Flood Defence Committees

As with previous stages of the SMP development it is important for the CSG to review the outputs of the preferred scenario confirmation stages before proceeding with the preparation of draft documents.

However, at this stage it is also likely to be necessary to gain some form of agreement from the Local Authorities involved in the SMP to the preferred scenario to be consulted upon. This may be achieved through the auspices of an Elected Members Forum, or through formal presentation to Council Cabinets. The process for this will depend entirely upon the direction from the individual authorities. The Environment Agency is also likely to take a report to gain approval from its relevant Regional Flood Defence Committee.

It is not envisaged that this process requires the authorities to approve the individual policies for each Policy Unit, rather to approve the overall Plan for a public consultation exercise. However, this process will identify those policies not considered acceptable by any individual authority and will present an opportunity to explain in more detail the policy selection rationale.

It is not necessary for this task to be undertaken ahead of document preparation, and the timing is a matter for the CSG to consider.

Task 4.2: Confirm Consultation Strategy

Aim

Define the most appropriate method for disseminating the SMP to the wider public and ensuring that stakeholders are given the opportunity to comment upon the draft plan.

Activities

Similar to the development of a stakeholder engagement strategy, the method of public consultation needs to be defined. This will involve the following steps.

(a) Identify consultation method.

(b) Define consultation response management.

Delivery

(a) Identify consultation method

Many Local Authorities have lengthy experience of engaging with the community over a variety of issues, including planning and transport policy. This expertise should be utilised in developing the consultation process. The appropriate method for disseminating the SMP should be discussed as early in the SMP process as possible. Each CSG has discretion over the approach it establishes for considering representations from consultees. Experience from previous consultations will help define the most appropriate approach.

It may be appropriate to inform different groups in different ways. Possible methods of dissemination include: by letter, through local media, by electronic news letter, through the internet, in public meetings or exhibitions and through channels already established for SMP preparation – e.g. forum, conference, etc. A number of these methods may be employed through the consultation period.

The type of dissemination chosen may depend upon the anticipated response and feedback. For example, on a coast where face to face discussions of the plan will be required, it may be appropriate to hold public meetings or exhibitions, whereas on a coast with limited issues, a letter with accompanying SMP summary pamphlet may be sufficient.

As part of this task, consideration needs to be given to where the full draft plan will be made available for review (e.g. in Local Authority offices, libraries, EA offices, on the web, for purchase).

In general, it is recommended that the consultation period extends over a period of three months (with a minimum of 28 days to comply with the SEA regulations).

(b) Define consultation response management

Stakeholders may wish to comment on the SMP; therefore a method of consultation response management needs to be defined. As well as determining how stakeholders can make their views known about the plan (e.g. on specific form, through comment at public meetings, conferences, etc.), this should also establish who is responsible for receiving and collating the representations (e.g. through a database) and recording outcomes and their justification. As part of this it should be decided whether those making representation are to be informed of the outcome of, and reasons for, decisions.

The method of dealing with different groups may vary and it may be appropriate to hold round-table discussions or individual meetings with particular organisations. Particular attention should be paid to the views of Natural England and Local Planning Authorities.

Task 4.3: Prepare Materials

Aim

Produce documents, in line with the consultation strategy, for public review.

Activities

(a) Produce SMP document/s for consultation.

(b) Prepare any additional materials.

Delivery

(a) Produce SMP document/s for consultation.

The types of documents that are to be produced for consultation should be decided as part of Task 4.2. A draft SMP document will have been produced as part of Task 3.5, and for the preferred scenario this should include policy statements covering each area/unit. Appropriate language should be used to ensure that these can be readily understood by a wider, non-technical audience. Advice may be sought from the CSG and PR departments within those organisations. This document should also include mapping to illustrate the preferred scenario (see Task 3.5 for further discussion).

In addition to the main SMP document, the CSG may also consider it appropriate to produce a summary document for wider distribution. This may take the form of a 'glossy' leaflet, with the format being tailored to both the local audience and the intended role of the leaflet. This leaflet may simply identify that the revised SMP is being consulted upon and explain the SMP process, or it may provide more detail, such as summarising the preferred scenario. The production of such a document is a matter for individual CSGs.

The form and content of the draft plan and any other documents should be reviewed with the CSG before it is issued to ensure accuracy and presentation is appropriate to the target audience. Consideration could be given to producing a draft of the Action Plan, Task 5.2, to accompany the consultation documents.

It is likely that hard copies of the draft plan will need to be available for public viewing; locations should have been determined as part of Task 4.2. In addition, it may be appropriate to post digital (e.g. PDF) versions on a web-site to allow the public to download digital copies.

(b) Prepare any additional materials.

Dependent on the type of consultation to be undertaken, there may be a need to produce additional materials such as presentation boards. As for the other documents, the language used should be aimed at a non-technical audience.

Prior to consultation there will be a need to publicise the material, e.g. through a press notice or press release. In addition, it may be appropriate to produce a more detailed document for publication in the press.

Response forms, if used, should be carefully designed to encourage the public to explain their reasoning behind any comments. This will help ensure that responses are dealt with appropriately.

Task 4.4: Public Consultation

Aim

To make stakeholders aware of the draft plan and provide stakeholders with opportunities to comment on the plan.

Activities

(a) Conduct consultation activities.

(b) Collate consultation responses.

(c) Assess consultation responses.

Delivery

(a) Conduct consultation activities

The strategy for consultation will be decided as part of Task 4.2. It is recommended that any consultation will take place over a minimum three month period.

There is no universally appropriate way to undertake the consultation on the draft SMP. It is a decision for the CSG to balance the likely costs and benefits of the various approaches outlined in Appendix A (Annex A4). However, it is essential that sufficient advertising of the consultation and any events is undertaken so that as many stakeholders as possible are aware; therefore good administration is vital at this stage.

(b) Collate Consultation Responses

Further to the strategy defined as Task 4.2, consultation responses should be collated and recorded.

(c) Assess Consultation Responses

Those preparing SMPs must fully consider all representations and resolve differences of view before the SMP can be finalised.

Annex A5 identifies methods for resolving differences of view, such as CSG meeting, SMP Panel and SMP expert, and highlights the advantages and disadvantages of each method. It is important to consider who is empowered to make decisions over the retention or amendment of policy; and whether all representations are dealt with in the same way. Independence and objectivity are important criteria affecting the choice of method. It may be appropriate to define a method for resolving differences of view prior to the consultation period.

Stage 5: Finalise Plan

Site of Special Scientific Interest: Alnmouth Saltmarsh and Dunes

Task 5.1: Determine Revisions to Draft SMP

Aim

Following consultation, responses must be considered and any revisions to the Draft SMP agreed.

Activities

The activities required are as follows.

(a) Determine extent and impact of any changes required.

(b) Get agreement to changes.

(c) Prepare Consultation Report.

(d) Feedback to consultees.

Delivery

(a) Determine extent and impact of any changes required

It is likely that some modifications to the draft SMP will arise from consultation. In many cases these will be editorial, e.g. to improve clarity.

Where sound technical, socio-economic or environmental information is provided during the consultation period, and this is likely to alter the preferred policy at any location, the implications of this will need to be re-evaluated. Depending upon the nature of such change, it could be necessary to repeat several of the tasks and activities in Stage 3 for the modified policy scenario, as the consequences of any change upon the whole SMP must be determined. Should the change in policy produce a greater detrimental impact upon any of the defined objectives, then this change may need to be agreed with the stakeholders. It will also need to be accepted by those responsible for adoption of the plan; i.e. the local authorities, Environment Agency, Natural England/CCW and Defra/WAG, and this should include elected member representatives.

(b) Get agreement to changes

It may be difficult to reach a unanimous decision. Appendix A provides some guidance on dispute resolution which may be useful to this process. Where agreement cannot be reached within an acceptable period, it may be necessary to conclude an unresolved policy for a location, although the consequences of not being able to deliver the preferred policy upon other locations will need to be expressed. Another option would be to gain interim adoption of the SMP, e.g. to the preferred short-term policies, to allow any actions arising from the SMP to proceed.

If a decision is taken by the CSG to make changes to the "preferred policy" for reasons other than new or improved technical, economic or environmental understanding, e.g. due to political decisions, these should be identified in the final SMP as "amendments", with the original preferred policy also stated. This is required to differentiate between the policy which is considered to be most sustainable and that which is being adopted, the "adopted policy".

This differentiates such policies in relation to decisions on future funding and identified responsibility for detrimental impacts.

(c) Prepare consultation report

To retain clarity and transparency it is important to record the consultation process undertaken, the responses received and the decisions taken on those responses. The Consultation Report need not include full reproduction of all feedback and an individual response to each, rather a table identifying the respondents and the nature of their comments. This can then be accompanied by a review of the general issues raised together with policy unit specific issues. Outcomes from the review of responses (4.4c) and any changes made to the final plan (5.1 a & b) should be clearly recorded.

This report must be made available with the SMP documentation to ensure consultees can see how their comments have been addressed.

(d) Feedback to consultees

Only once the consultation responses have been assessed and agreement obtained for proposed changes to the Plan can consultees be informed of how their representation has been dealt with. Dependant upon the number of respondents it may be appropriate to provide each with a copy of the Consultation Report. Alternatively the report can be made available on the internet. Regardless of the approach taken it is important to at least acknowledge all responses and stress that they have been considered in the finalising of the Plan.

Task 5.2: Develop Action Plan

Aim

The aim of the action plan is to summarise the actions likely to be required between now and the next review of the SMP.

Activities

The activities required to develop the action plan are as follows.

(a) Review policy statements to identify where and when works are expected.

(b) Develop a prioritised programme of Strategy Plan development or reviews, and an outline of timing of possible future schemes.

(c) Establish any actions that will be required to resolve uncertainties.

(d) Establish any actions that may be necessary to deal with the consequences of the plan.

(e) Establish a process for informing stakeholders of progress.

Delivery

The Action Plan sets out the process for the implementation of final SMP recommendations. As such it can only be produced once the final policies have been identified and agreed (5.1b). However a draft may have been produced based on the draft plan and used in consultation so this can be finalised now.

Action Plans need to be provided at an appropriate scale, i.e. it is not expected that the SMP should define operational activities or monitoring requirements at the level of detail that might be expected from a strategy. Typically the SMP might identify where works are anticipated and also where further investigations are necessary to resolve outstanding uncertainties. Clearly there is a need to consider works beyond the next 5 to 10 years as earlier actions may be required to enable these to proceed, e.g. development of a strategy or further studies.

An important aspect of the Action Plan will be presenting a framework to ensure the SMP is used by the relevant Planning authorities (Task 5.3c).

These actions do not need to be restricted to implementation of the individual policies. It will be particularly important that the SMP identifies any actions likely to be required as a consequence of the plan. For example, where the plan is expected to result in the loss of properties and facilities associated with coastal settlements, it is likely that actions to identify and develop mitigation measures would need to be stated within other appropriate plans (such as where existing defences are to no longer be maintained, the need for an 'Exit Strategy' should be identified).

Although the action plan should generally focus on the period up to the next review of the SMP, it need not limit itself in this respect where issues relating to the medium or long-term plan have already been identified and should receive earlier consideration. This might be particularly important, for example, where the plan has identified that legislative matters need to be debated, which could take several years to conclude.

An important feature will be the framework for monitoring progress on the Action Plan and informing stakeholders of the progress. It is recommended that review of the Action Plan becomes a regular item for coastal group meetings. The dissemination of progress is likely to include the maintenance of an 'Updates' page on the SMP website.

A suggested format for an Action Plan is included in Appendix I.

Task 5.3: Finalise SMP

Aim

Having agreed the plan and the action plan, this needs to be adopted. Final documentation includes the approved Plan, technical appendices and the SMP policy summary database.

Activities

This task includes the following activities.

(a) Finalise SMP documents.

(b) Adoption of the SMP.

(c) Links with planning.

(d) Populate SMP policy summary database.

(e) Submit adopted plan to Defra/WAG for agreement.

Delivery

(a) Finalise SMP documents

The final SMP documentation should conform to the standards provided by this guidance and the requirements of the CSG.

Whilst the content of each SMP may differ depending upon the nature of the shoreline, the information available and specific requirements of the individual coastal group, the final presentation of conclusions needs to be consistent between SMPs. Appendix I provides guidance for the standard of output as a minimum requirement for all SMPs. A consistent Plan will readily facilitate integration between SMPs, particularly those within the same region, and enable the production of national overview statements.

The text of the plan should reflect the range of interest in the plan's content and is an essential component of successful dissemination. While a hard copy print run may be useful, it may be appropriate to ensure that the SMP is available on the web to provide ease of access to the many volumes of technical appendices that sit behind the plan, justifying the decisions behind the adopted policies.

(b) Adoption of the SMP

The SMP is to be adopted by the local authorities, the Environment Agency (via the relevant RFDC), Natural England/CCW and agreed by Defra/WAG. It is important to ensure the SMP is recognised as a policy document and underline the Operating Authority's commitment to monitor and review the plan. The method of formally adopting/approving the SMP should be decided by each individual authority or organisation. The other partners listed above, who are

associated with ownership of the plan, should make the other parties aware of their own arrangements.

An important output reflecting the adoption of the plan will be a page in the front of the document that can be physically signed by the relevant authorities to state their commitment to the policies presented by the SMP. Signatories are likely to include relevant elected members of Local Authorities (e.g Portfolio Holder), Environment Agency (perhaps Chair of the RFDC) and representatives from others, such as Natural England.

(c) Links with Planning

Volume 1 clarifies the importance of ensuring that the information and policies contained in the SMP are used in strategic and development planning. Once the SMP has been adopted it is essential that the process for its consideration in the planning framework is progressed as set out in the Action Plan.

(d) Populate SMP policy summary database

In addition to the plan documents, data from Shoreline Management Plans will be incorporated into the NFCDD to provide nationally consistent reporting of the outcomes of SMPs. Guidance on the process and requirements for NFCDD population are available from the SMP page on the Defra website at http://www.defra.gov.uk/environ/fcd/policy/smp.htm. The time required to provide this data can be minimised if information contained within the policy statements in the SMP document is structured in the same way.

(e) Submit adopted plan to Defra/WAG for agreement

Once the SMP is adopted by the lead operating authority and the other partner authorities, it should be submitted to the Defra/WAG for consideration (refer to Volume 1 Section 4).

Stage 6: Plan Dissemination

Chiswell village and Chesil beach, Dorset

Task 6.1: Publish SMP

Aim

Once complete, the existence of the plan needs to be publicised to ensure that its contents are taken into account by those who may be affected in some way by its policies and those who have planning responsibilities for the coast. This is to:

- Ensure that there is an awareness of the SMP process, the management of the shoreline and the longer-term implications of management policies;
- Inform and support the planning system in discouraging inappropriate development in areas at risk from flooding and erosion.

Activities

The two main activities for the CSG will be to:

(a) make the SMP accessible;

(b) publicise SMP completion.

Delivery

(a) Make the SMP accessible

The SMP should be made available through websites. A variety of options exist, ranging from PDF versions of the documents through to fully interactive documents. Further guidance is provided in Appendix I. Copies of the SMP should be made available for inspection in the offices of the coastal group members, and possibly other public buildings.

Approaches for dissemination of the SMP is at the discretion of the CSG and is expected to reflect local issues and needs. Possible mechanisms for this dissemination are similar to those suggested for consultation (see Stage 4 and Appendix A).

(b) Publicise SMP completion

Key parties to be informed that the plan has been finalised and will include:

- Local authority planners;
- Environment Agency development control;
- Regional Development Agency;
- Regional Assembly.

Task 6.2: Implementation of the Plan

Aim

To identify arrangements to undertake the actions detailed in the Plan.

Activities

Implement Action Plan programme.

Delivery

Following preparation of the SMP, the CSG should make arrangements for its ongoing implementation. This should include the implementation of any strategy plans, stand alone schemes, monitoring and studies. The CSG will be responsible for undertaking ongoing strategic monitoring and strategic plans for policy units within their areas of responsibility.

Future reviews of the SMP should take place at appropriate intervals. The CSG should set out its intentions for this in the plan. However, in many cases it may not be appropriate to undertake a revision of the plan unless/ until there has been significant change in the local conditions or sufficient monitoring or study data has been collected to resolve particular uncertainties. Periodic review of progress on the SMP Action Plan should be undertaken to help drive this process.

Coastal groups should continue their active involvement between SMP revisions and should not devolve all actions to the individual operating authorities and their consultants. The SMP should be actively maintained between reviews (updating databases, e.g. National Flood and Coastal Defence Database, with new reports or results from studies, recording emerging issues etc). This may be best facilitated through a web site.

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