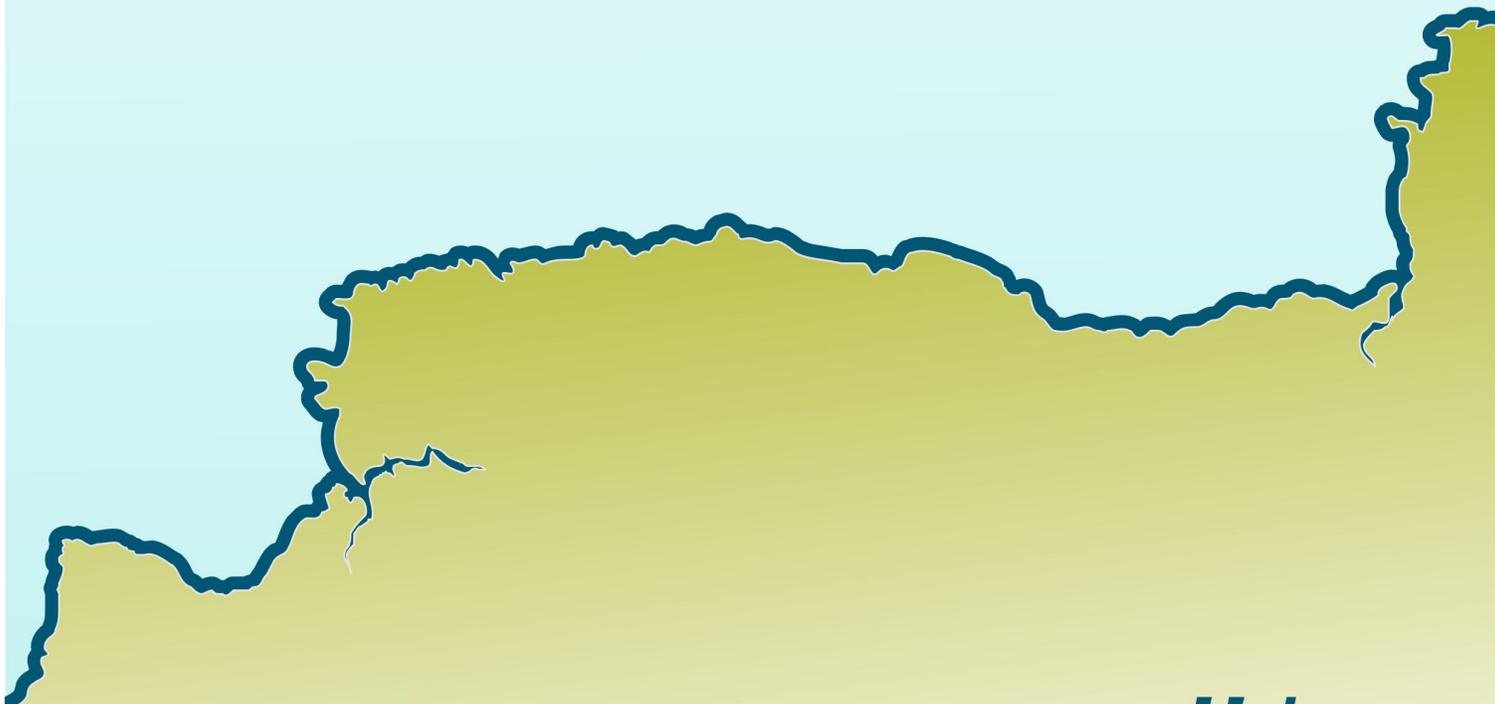


North Devon and Somerset Coastal Advisory Group (NDASCAG)

Shoreline Management Plan Review (SMP2) Hartland Point to Anchor Head

Appendix A – SMP Development



The Supporting Appendices

These appendices and the accompanying documents provide all of the information required to support the Shoreline Management Plan. This is to ensure that there is clarity in the decision-making process and that the rationale behind the policies being promoted is both transparent and auditable. The appendices are:

A: SMP Development	This reports the history of development of the SMP, describing more fully the plan and policy decision-making process.
B: Stakeholder Engagement	All communications from the stakeholder process are provided here, together with information arising from the consultation process.
C: Baseline Process Understanding	Includes baseline process report, defence assessment, NAI and WPM assessments and summarises data used in assessments.
D: SEA Environmental Baseline Report (Theme Review)	This report identifies and evaluates the environmental features (human, natural, historical and landscape).
E: Issues & Objectives Evaluation	Provides information on the issues and objectives identified as part of the Plan development, including appraisal of their importance.
F: Initial Policy Appraisal & Scenario Development	Presents the consideration of generic policy options for each frontage, identifying possible acceptable policies, and their combination into 'scenarios' for testing. Also presents the appraisal of impacts upon shoreline evolution and the appraisal of objective achievement.
G: Preferred Policy Scenario Testing	Presents the policy assessment and appraisal of objective achievement towards definition of the Preferred Plan (as presented in the Shoreline Management Plan document).
H: Economic Appraisal and Sensitivity Testing	Presents the economic analysis undertaken in support of the Preferred Plan.
I: Strategic Environmental Assessment (SEA) Report	Presents the various items undertaken in developing the Plan that specifically relate to the requirements of the EU Council Directive 2001/42/EC (the Strategic Environmental Assessment Directive), such that all of this information is readily accessible in one document.
J: Appropriate Assessment Report	Presents the Appropriate Assessment of SMP policies upon European designated sites (SPAs and SACs) as well as Ramsar sites, where policies might have a likely significant effect upon these sites. This is carried out in accordance with the Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitats Regulations).
K: Water Framework Development Report	Presents assessment of potential impacts of SMP policies upon coastal and estuarine water bodies, in accordance with the requirements of EU Council Directive 2000/60/EC (the Water Framework Directive).
L: Metadatabase and Bibliographic database	All supporting information used to develop the SMP is referenced for future examination and retrieval.
M: Action Plan Summary Table	Presents the Action Plan items included in Section 6 of the main SMP document (The Plan) in tabular format for ease of monitoring and reporting action plan progress.

Within each appendix cross-referencing highlights the documents where related appraisals are presented. The broad relationships between the appendices are illustrated below.

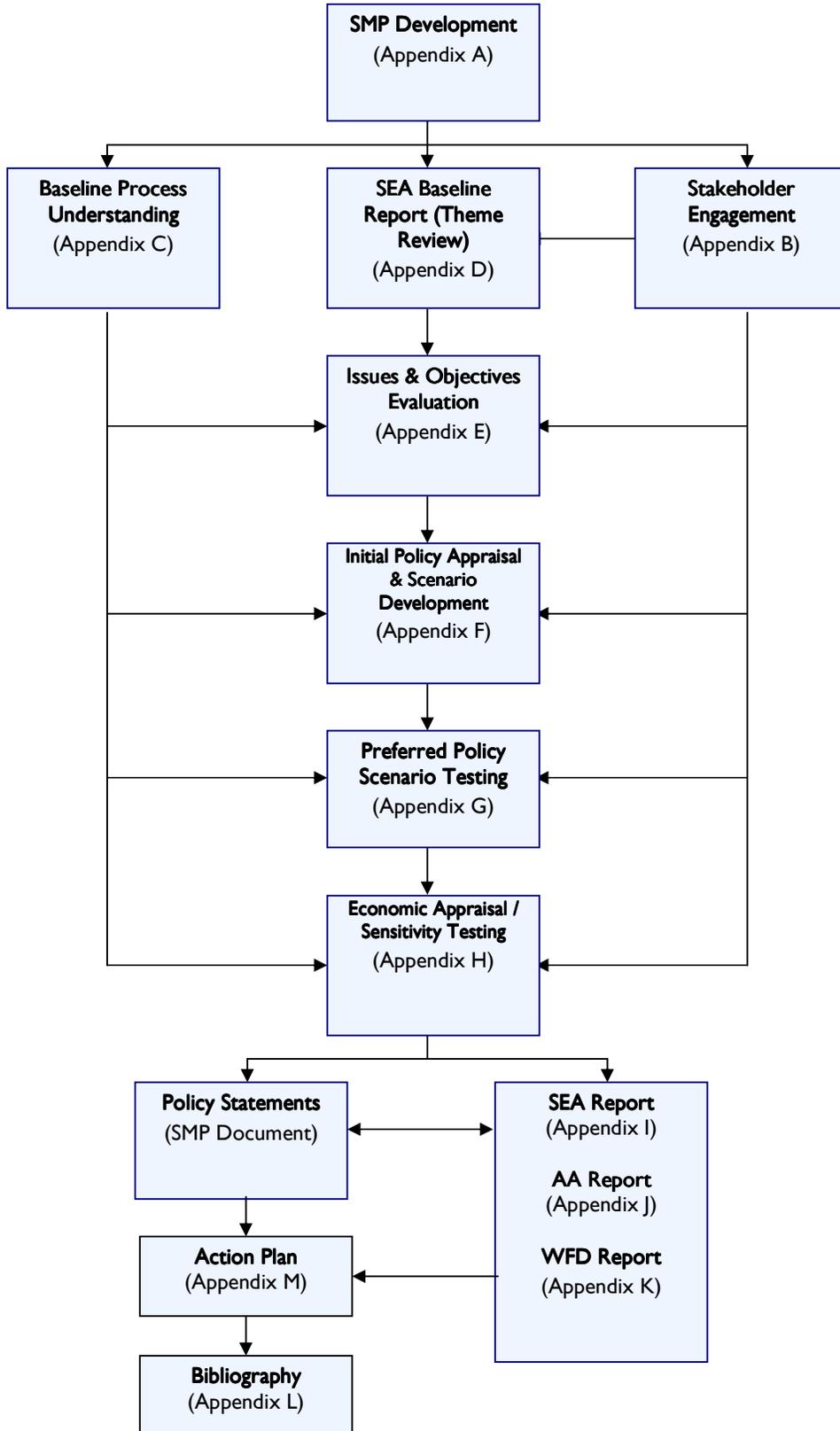


Table of Contents

A.1	INTRODUCTION	1
A.2	PROJECT INFORMATION	2
A.2.1	SMP Background	2
A.2.2	Client Steering Group (CSG)	2
A.2.3	Consultant	3
A.2.4	SMP Study Boundaries	3
A.3	SMP PROGRAMME.....	4
A.4	STAGE 1: SCOPE SMP	5
A.4.1	Stakeholder Engagement Strategy	5
A.4.2	Data Collection	5
A.5	STAGE 2: ASSESSMENTS TO SUPPORT POLICY DEVELOPMENT	6
A.5.1	Baseline Process Understanding of Coastal and Estuarine Behaviour and Dynamics.....	6
A.5.2	Baseline Scenarios.....	6
A.5.3	SEA Environmental Baseline Report (Theme Review).....	7
A.5.4	Definition of Issues and Objectives.....	7
A.5.5	Identify Flood and Erosion Risks.....	8
A.5.6	Assessment of Objectives.....	8
A.5.7	High-Level Objectives.....	8
A.6	STAGE 3: POLICY DEVELOPMENT	10
A.6.1	Development of Policy Scenarios	10
A.6.2	Policy Scenario Assessment	10
A.6.3	Identification of a Preferred Scenario.....	11
A.6.4	Confirm Preferred Scenario.....	11
A.6.5	Draft SMP Document Preparation	12
A.7	STAGE 4: PUBLIC EXAMINATION	13
A.7.1	Gain Approval in Principle.....	13
A.7.2	Confirm Consultation Strategy	13
A.7.3	Public Consultation	13
A.8	STAGES 5 AND 6: FINALISE AND DISSEMINATE PLAN	15
A.8.1	Revisions to Draft SMP	15
A.8.2	Develop Action Plan	15
A.8.3	Finalise SMP	15
A.8.4	Dissemination and Implementation of The Plan	15

A.1 Introduction

This Appendix provides a full explanation of the Shoreline Management Plan (SMP) process adopted, a description of the policy decision-making process and outlines the chronology of the SMP development.

It also provides a 'route map' for the supporting information used in the SMP development and included in appendices. These are as follows:

Appendix	Description
B - Stakeholder Engagement	All communications from the stakeholder process are provided here, together with information arising from the consultation process.
C - Baseline Process Understanding	Includes baseline process report, defence assessment, No Active Intervention (NAI) and With Present Management (WPM) assessments and summarises data used in assessments.
D – SEA Environmental Baseline Report (Theme Review)	This report identifies and evaluates the environmental features (human, natural, historical and landscape).
E - Issues & Objectives Evaluation	Provides information on the issues and objectives identified as part of the Plan development, including appraisal of their importance.
F - Policy Development and Appraisal	Presents the consideration of generic policy options for each frontage, identifying possible acceptable policies, and their combination into 'scenarios' for testing. Also presents the appraisal of impacts upon shoreline evolution and the appraisal of objective achievement.
G - Preferred Policy Scenario Testing	Presents the policy assessment and appraisal of objective achievement for the Plan.
H - Economic Appraisal and Sensitivity Testing	Presents the economic analysis and sensitivity testing undertaken in support of the Plan.
I - Strategic Environmental Assessment	Description of the SEA process to collate all parts of the SMP relating to SEA Directive requirements.
J: Appropriate Assessment Report	Presents the Appropriate Assessment of SMP policies upon European designated sites (SPAs and SACs) as well as Ramsar sites, where policies might have a likely significant effect upon these sites. This is carried out in accordance with the Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitats Regulations).
K: Water Framework Development Report	Presents assessment of potential impacts of SMP policies upon coastal and estuarine water bodies, in accordance with the requirements of EU Council Directive 2000/60/EC (the Water Framework Directive).
L - Sources of Data	All supporting information used to develop the SMP is referenced for future examination and retrieval.
M: Action Plan Summary Table	Presents the Action Plan items included in Section 6 of the main SMP document (The Plan) in tabular format for ease of monitoring and reporting action plan progress.

A.2 Project Information

A.2.1 SMP Background

This SMP is an update of both the Bridgwater Bay to Bideford Bay SMP and part of the Severn Estuary SMP produced by Halcrow and Giffords respectively in 1998 and 2000. The SMP was developed and produced in accordance with the latest Procedural Guidance (PG) for the production of SMPs (Defra, 2006). The SMP was initiated in October 2007, with a draft issued for public consultation produced in September 2009.

A.2.2 Client Steering Group (CSG)

At the start of the SMP process the Client Steering Group (CSG) was defined by the North Devon and Somerset Coastal Advisory Group; in this case it was decided the Coastal Group would also be the Client Steering Group. Therefore the CSG comprised the following members:

Name	Organisation
Humphrey Temperley (Chairman)	Independent (Environment Agency and formerly of Devon County Council)
Paul Robertshaw	North Devon Council (Lead Authority)
Angela Proctor/John Buttivant/Steve Stanbridge/Vicky Durston/Nick Ely	Environment Agency South West Region
Alan Lovell	Environment Agency Regional Flood Defence Committee (Wessex)
Shawn Corin/Tara Sanders	Torridge District Council
Steve Watts	West Somerset District Council
Richard Dunn/Rob Shuttleworth/John Taylor	Sedgemoor District Council
Rachel Lewis	North Somerset Council
Justin Gillett	Natural England Devon Team
Barry Phillips	Natural England Somerset Team
Aidan Winder	Devon County Council
Rebecca Seaman	Somerset County Council
Andy Bell	North Devon's Biosphere Reserve
Nigel Hester/Andy Mayled	National Trust
Vanessa Straker	English Heritage
Poie Li	Exmoor National Park
Richard Archer	Royal Society for the Protection of Birds
Emerald McLoughlin	Plymouth Coastal Observatory (SW Regional Coastal Monitoring Programme)

This group therefore included a representative from each of the district authorities as well as Defra and the statutory consultees (Natural England, English Heritage and the regional and area Environment Agency offices).

It was agreed by the North Devon and Somerset Coastal Advisory Group that North Devon Council would be the Lead Authority and as such were responsible for the financial management of the project, including grant aid submission, and overall project administration. However, the Environment Agency South West

Region were responsible for the project management on behalf of the Coastal Group. The CSG had overall responsibility for the delivery of the SMP and were involved throughout the life cycle of the SMP. As well as initiating the development process and defining the scope and extent of the SMP, they were responsible for managing the development of the SMP through guidance and review of the work undertaken. The group will also oversee implementation of the SMP, with regular meetings continuing following completion of the SMP.

A.2.3 Consultant

Halcrow Group Ltd was commissioned to produce the SMP on behalf of the North Devon and Somerset Coastal Advisory Group. Halcrow undertook the majority of the tasks, although the stakeholder engagement process was led by the Environment Agency in their role as client project manager.

Key team members included:

Name	Role
Kevin Burgess	Project Director
Dr Jonathan Rogers	Project Manager
Alan Frampton	Assistant Project Manager and Delivery Leader
Dr Helen Jay	Technical Team Leader
Robert Harvey	Principal Environmental Scientist
Gemma O'Connor/Nick Corne	Environmental Scientists
Andy Stocks	GIS Analyst

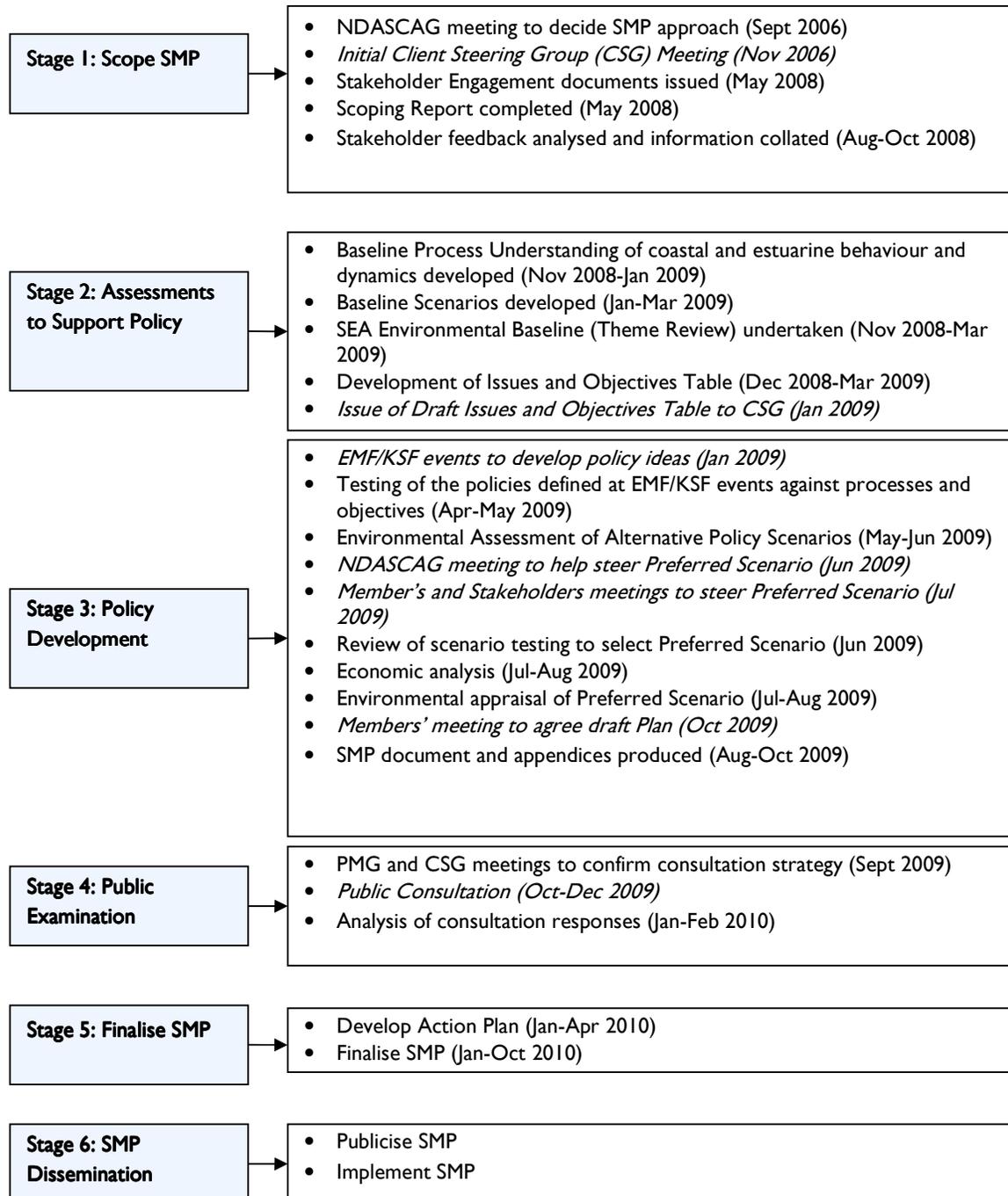
A.2.4 SMP Study Boundaries

This SMP relates to Sub-cells 7c, 7d and 7e as defined by HR Wallingford (1994) and combines the two first generation SMPs that covered the area from Hartland Point to Brean Down, including Lundy (the Bridgwater Bay to Bideford Bay SMP) and the part of the Severn Estuary SMP covering Weston Bay between Brean Down and Anchor Head. The decision to combine these two first generation SMPs was based upon the recommendation in the Defra SMP guidance (Defra, 2006) to ensure coherent management of the potential linkage between Bridgwater Bay and Weston Bay that could occur if there were a breach of the dunes to the south of Brean Down. Such a breach could have implications for Weston Bay. The pre-existing western boundary at Hartland Point was considered to be an appropriate boundary to retain (Defra, 2006).

The CSG determined that this SMP should also include the Taw/Torridge and Parrett estuaries along the coast, and that consideration of these should be up to the tidal limits.

A.3 SMP Programme

The Figure below illustrates the timetable of activities carried out as part of the SMP development, highlighted in *italics* are the activities that involved stakeholder engagement (further details are included in **Appendix B**).



A.4 Stage I: Scope SMP

A.4.1 Stakeholder Engagement Strategy

A three level approach was adopted:

1. Client Steering Group (CSG);
2. Elected Members Forum (EMF); and
3. Key Stakeholders Forum (KSF).

The CSG have taken the lead on the Stakeholder Engagement for this SMP.

The aim of the EMF was to act as a focal point for discussion and consultation throughout development of the SMP; and members of the EMF were involved in a series of workshops throughout the SMP development, including discussing and approving the preferred policies presented in this draft SMP. **Appendix B** provides further details of all EMF meetings and stakeholder engagement exercises.

Membership of both the EMF and KSF was determined through discussion with the CSG and through utilising the first SMP and existing strategy studies. Representatives were invited from a range of local, regional and national interest groups. In addition, other stakeholders (including local residents) were also invited to participate in the KSF meetings: a full list is provided in **Appendix B**. A database of names, organisations and contact details was created.

A.4.2 Data Collection

Data was collected via a number of sources including stakeholders, literature searches and web-searches. Key resources were:

- The first round SMPs (Halcrow, 1998; Giffords, 2000)
- Futurecoast (Halcrow, 2002)
- Existing strategy studies completed since the last SMP: Parrett Estuary Flood Risk Management Strategy (Halcrow, 2009); Severn Estuary Flood Risk Management Strategy (Atkins, 2009); Burnham to Brean Coastal Study (Black & Veatch, 2008); Steart Managed Realignment Project (Halcrow, 2009); Taw Banks Study (Jacobs, 2008); Stolford to Comwich Coastal Defence Strategy Study (Babtie, Brown & Root, 2002); Weston Seafront Strategy Study (Royal Haskoning, 2004); Minehead to Blue Anchor Coastal Defences (Black & Veatch, 2006); and Warren Point to Dunster Beach Coastal Defence Study (Black & Veatch, 2009).
- Existing scheme/Project Appraisal Reports completed since the last SMP: Weston-super-Mare Sea Defences (Royal Haskoning, 2007).
- Natural England website (www.naturalengland.org.uk);
- MAGIC website (www.magic.gov.uk); and
- Data provided by English Heritage and County Council Heritage Environment Record offices.

All the data and information gathered and used within the SMP development are referenced in **Appendix L**. Some of the data collected were reviewed as part of separate tasks, such as that completed for the Baseline Process Understanding of Coastal and Estuarine Behaviour and Dynamics (see Stage 2 below).

A.5 Stage 2: Assessments to Support Policy Development

A.5.1 Baseline Process Understanding of Coastal and Estuarine Behaviour and Dynamics

(a) Assessment of coastal and estuarine processes and evolution

An assessment of coastal and estuarine behaviour and understanding was undertaken, incorporating existing information at various temporal and spatial scales. This review includes statements on interactions, shoreline movement and predictions of shoreline and estuary evolution at various scales and is included in **Appendix C**. There is also an additional section which discusses other considerations necessary in policy development, e.g. impacts of climate change including sea level rise. Through this review it was concluded that key parts of this coastline which are the most dynamic have been extensively studied in the past and, in places, also subject to ongoing studies. There are, however, still inherent uncertainties associated with coastal behaviour along this coastline, which are discussed in the report.

This baseline review underpins coastal and estuarine process understanding of the study area and is the basis for the development of the baseline scenarios. A review of this report was undertaken by the CSG.

(b) Assessment of coastal defences

The SMP PG suggests that the National Flood and Coastal Defence Database (NFCDD) should be used in the assessment of coastal defences. This data set was, however, found to be incomplete at the start of the SMP review. In response, a separate task was commissioned to provide an update to the NFCDD, to run concurrently with the SMP, in order to: inform the SMP, meet the requirements of the separate National Coastal Erosion Risk Mapping study (which was utilised in development of the SMP), and meet the Defra High Level Target of completing the NFCDD.

From the data collected as part of the NFCDD update, an assessment of residual life under a 'No Active Intervention' policy was undertaken using the Environment Agency's Visual Condition Assessment Manual, as discussed in **Appendix C**. This was supplemented by technical knowledge of the coast through involvement of the CSG and from Halcrow's previous experience along this coastline. This information was used in the 'No Active Intervention' assessment (see below) as a first approximation of when defences will fail.

The report on defences is included in **Appendix C**: a review of this report was undertaken by the CSG.

A.5.2 Baseline Scenarios

To assist in the development of future policy, the future coastal response was assessed for two simple scenarios, termed 'baseline scenarios': 'No Active Intervention' (NAI), which assumes that defences are no longer maintained and will fail over time; and 'With Present Management' (WPM), which assumes that all defences are maintained to provide a similar level of protection to that provided at present. These two assessments provide an understanding of the influence of defences on coastal behaviour and evolution.

These assessments were completed for three pre-defined timescales (epochs): 0 to 20; 20 to 50 and 50 to 100 years. It was not appropriate at this stage to define *Policy Units*; therefore the coast was initially divided according to the natural and/or defence characteristics of the coast and is reported west to east, i.e. Hartland Point (and Lundy) to Anchor Head, as required by the SMP PG.

Under the two scenarios, predictions of future shoreline change and erosion/ flooding risk have been made using information from the baseline understanding of coastal and estuarine behaviour and dynamics (see above) together with additional data on historical shoreline change from analysis of Environment Agency beach profiles and Historical Ordnance Survey maps, the Environment Agency Flood Zone Risk Mapping data, and future shoreline erosion risk from the Defra/Environment Agency/WAG National Coastal Erosion Risk Mapping R&D project data. Further details of the information used are included in **Appendix C**.

The two reports are included in **Appendix C**. Maps showing the predicted shoreline response under 'No Active Intervention' are included in **Appendix C**; these illustrate maximum flood and erosion risk zones. These maps and conclusions from the analyses were reviewed by the CSG.

A.5.3 SEA Environmental Baseline Report (Theme Review)

Conflicts between the natural and built environment exist along any shoreline, and the SMP has to consider these conflicts in terms of shoreline management. A first stage is therefore to identify the key features along this shoreline, including natural, human and socio-economic assets, and to fully understand the relationships between these features and to understand how coastal management can alter coastal processes and potential impact on the environment.

This report (refer to **Appendix D**) identifies key environmental features along the coast and why these features are important to stakeholders: this is a central element of the identification and assessment of objectives. It has been produced using both the most up-to-date data available, and information provided by stakeholders. Information from this review has then been used as a basis for developing policy options and assessing the impacts and suitability of these options.

An overview of the coastline is provided, together with specific information relating to:

Natural Environment:	<ul style="list-style-type: none">- Biodiversity, Flora and Fauna;- Earth Heritage, Soils and Geology;- Air and Climate;- Water.
Landscape Character and Visual Amenity.	<ul style="list-style-type: none">- Landscape and Visual Amenity
Historic Environment (Cultural Heritage):	<ul style="list-style-type: none">- Terrestrial;- Marine.
Land Use, Infrastructure and Material Assets:	<ul style="list-style-type: none">- Commerce and Industry;- Port and Harbour Activities;- Agriculture;- Infrastructure;- Fisheries;- Mineral Extraction and Landfill;- Future Land Use/Planning Targets;- Other Proposed/Ongoing Developments.
Population and Human Health:	<ul style="list-style-type: none">- Residential;- Health;- Recreation, Tourism and Amenity Interests.

Thematic maps have been produced to show the location of key features and these are included within the Appendix.

All environmental features and assets lying wholly, or partly, within the inland boundary of the SMP, which has been taken to be one kilometre inland of the coastline between Hartland Point and Anchor Head, or up to the limit of the indicative coastal flood risk zone (where this extends further inland), have been included.

This report forms the scoping stage of the SEA.

The SEA process has been closely integrated with the SMP to ensure that significant environmental and social issues are considered alongside technical and economic considerations. This approach ensures that the identification of environmental constraints and opportunities associated with the various SMP policy options drives the SMP decision-making process and selection of an environmentally acceptable plan.

Appendix I 'SEA' documents the SEA process that has been carried out during the development of the SMP and demonstrates how the SMP complies with SEA Directive.

This information is also used to inform the Appropriate Assessment (**Appendix J**) and the Water Framework Directive Assessment (**Appendix K**).

A.5.4 Definition of Issues and Objectives

The definition of issues and objectives is a key feature of the second generation SMPs to assist in policy appraisal. The setting of objectives fulfils two roles; firstly, they help inform the development of policy options, 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.

An objective defines a target or goal that the SMP aspires to in delivering the plan. It is, however, important to understand that quite commonly there are conflicting objectives for a particular stretch of coast and that therefore it is likely that not all objectives will be achieved by the SMP; the aim of the SMP is to seek to provide a balanced plan, which considers people, nature, historic and socio-economic realities.

Using the information contained within the SEA Environmental Baseline Report (Appendix D) the issues were tabulated, subdivided into the various coastal sections. Using the SMP PG (2006) together with SEA guidelines, a list of SEA wide objectives was developed and, using the issues identified, appropriate objectives were defined for each feature. Within the environmental objectives, a distinction has been made between those that arise from legal (shown in *bold italics*) and those that do not represent legal obligations.

Some features such as priority habitats, for example, were excluded from the table as a thorough appraisal of them is not possible without knowledge and specific details of project level schemes or because complete data coverage of the SMP area is not available. Similarly, some assets, such as those associated with commercial fishing and dredging activities, are unlikely to be affected by policy decisions in coastal management, and are therefore excluded from the Issues and Objectives Table.

Within this SMP we have not attempted to weight or rank objectives, as our previous experience on SMP2s has proven this technique to be biased towards certain policy drivers and often too subjective. Instead the focus has been on a more qualitative and flexible means of developing and appraising sustainable policy options against technical, economic, environmental and social factors. We have found this method to be more appropriate when considering intangibles and areas where a single policy may have both positive and negative impacts.

This approach has also allowed stakeholder views, provided via a number of stakeholder events, to be considered and included within both the development of the issues and objectives table, and the subsequent policy appraisal.

A.5.5 Identify Flood and Erosion Risks

As part of the assessment of the 'No Active Intervention' baseline scenario, maps of flood and erosion risk over the three epochs were produced: these are included in **Appendix C**.

A.5.6 Assessment of Objectives

Following the principles of 'Making Space for Water', the impact on the coastal features and assets of a policy of 'no active intervention', along the coastline, has been considered. This has drawn upon both the baseline process appraisal (presented in **Appendix C**), which determined the impact of a no active intervention policy on coastal processes and information contained within the SEA Environmental Baseline Report (see **Appendix D**). From this comparison it has then been possible to determine whether objectives have been met, focusing on *how* and *why* objectives were (or were not) met, rather than *numbers* of objectives met.

This baseline understanding is an important input to the policy development stage and is presented in **Appendix E**.

A.5.7 High-Level Objectives

In addition to the objectives generated through stakeholder involvement there is a number of overarching objectives for SMPs that have been set by Defra, which have been considered when appraising policies:

- Shoreline management policies should take due consideration of current Government sustainable development policies, any high level targets, regulations, statutes, outcome measures and climate change guidelines associated with flood and coastal defence;
- Shoreline management policies should seek to have no adverse effect on any physical processes that benefits rely upon;
- Shoreline management policies should take due consideration of the need to maintain, restore or where possible enhance the total stock of natural and historic assets; and

- Shoreline management policies should have regard to current regional development agency objectives and statutory planning policies.

A.6 Stage 3: Policy Development

This Stage involved four key steps:

- Development of policy scenarios;
- Policy scenario assessment;
- Identification of a preferred scenario; and
- Confirmation of the preferred scenario.

Further details on each of these steps, and results of any assessments, are included in **Appendices F (Policy Development and Appraisal)**, **G (Preferred Policy Scenario Testing)** and **H (Economic Appraisal and Sensitivity Testing)**. The sections below outline the main tasks undertaken to complete these steps.

A.6.1 Development of Policy Scenarios

The SMP PG advocates a ‘policy scenario’ approach, whereby a string of policies is defined and appraised for discrete stretches of coastline; this approach ensures that the combined impact of policies is considered.

The first stage of this assessment was therefore to determine the main factors influencing policy decisions along the coast, i.e. key policy drivers, in order to give firm direction to the choice of appropriate policies. A key policy driver can be defined as a feature that has sufficient importance in terms of the benefits it provides that it potentially has an overriding influence upon policy selection at the wider SMP scale; this may be through either promoting a policy or discarding a policy for a particular location or locations. In identifying key policy drivers, the appropriateness of all four generic Defra policies was broadly considered for each location, i.e. ‘Hold the Line’, ‘Advance the Line’, ‘Managed Realignment’ and ‘No Active Intervention’.

An initial policy scenario was then developed (defined as ‘Scenario A’), based upon balancing stakeholder objectives identified in Stage 2. Using the knowledge gained in Stage 2 of coastal response and impact on features of the baseline scenarios, together with inputs from the coastal group, possible variations on this scenario were identified, broadly based upon the following principles:

- Scenario B - Key Drivers plus a more naturally functioning coast by year 100; and
- Scenario C - Key Drivers plus defence of other areas where present economic criteria *may* be satisfied, i.e. those areas where the initial assessment of the four generic policies had not totally discounted a ‘Hold the Line’ policy.

Prior to testing, these proposed policy scenarios were consulted upon, with the CSG, the EMF and the three Stakeholder Forums (see **Appendix B**). Feedback from this consultation was used to refine the policy scenarios further and these policy scenarios were then taken forward to the appraisal stage (see **Appendix F**).

A.6.2 Policy Scenario Assessment

This process had two main stages:

- assessment of shoreline interactions and response; and
- assessment of achievement of objectives.

(a) Assessment of shoreline interactions and response

All three scenarios (A, B and C defined above) were assessed in terms of future shoreline response. Following the same methodology as applied to the baseline scenario appraisal, statements on the impact of each policy scenario were produced, which describe the impact on coastal processes and shoreline evolution in response to the implementation of the policies. This has built on the work undertaken for the baseline scenarios in Stage 2 and, as for these scenarios, full consideration has been made of the potential estuary-open coast interactions. These assessments incorporated consideration of future climate change, in particular sea level rise. Predictions were made of both the likely rate of change and type of change along the coast.

Assumptions have been made regarding the implementation of the proposed policies: this is an important consideration as the type of implementation changes how a policy might impact on both the local environment and adjacent shorelines. For example, the downdrift 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). This, therefore, required a broad assessment of the *technical* viability of the proposed policy considered.

Reports detailing these assessments are included in **Appendix F**.

(b) Assessment of achievement of objectives

This stage involved appraising the impact of the policies on features along the coast and estuaries, up to defined estuarine limits. The approach adopted focused on qualitatively defining the 'benefits' and 'dis-benefits', using information on *environmental* and *social* features contained within both the SEA Environmental Baseline Report: Theme Review (**Appendix D**) and the Issues and Objectives Evaluation (**Appendix E**).

At this stage Halcrow looked to identify any opportunities that could arise from implementing the proposed policies, both for the environment and for people. All conclusions have been fully recorded in the Issues and Objectives Table. At this stage no quantification of losses was undertaken, or detailed economic analysis. This Table is included in **Appendix F** and forms part of the requirements of the SMP to comply with the SEA directive.

A.6.3 Identification of a Preferred Scenario

Results of the scenario testing were presented to the North Devon & Somerset Coastal Advisory Group at a meeting in June 2009. A table summarising the proposed preferred policy and the potential impacts of each policy was distributed to the group at the meeting for review, discussion and comment over the following two weeks. The proposed policy was presented and NDASCAG members were asked to identify any areas where they disagreed with the proposed policy and wished to discuss further. From the comments received, further review and clarification of the proposed preferred policies and the alternatives was made by the SMP consultant. This revised document then formed the basis of consultation at the July 2009 key stakeholder meetings.

At this stage many of the concerns noted related to the impact of policy decisions on property owners and infrastructure, in terms of property blight and insurance and access issues, rather than the technical justification of the policies.

Feedback from the meetings, together with the conclusions from policy assessment, were used to modify the scenarios in order to develop a draft 'preferred scenario', i.e. a coastal-wide scenario that best achieves the defined shoreline management objectives in a sustainable manner, considering technical, environmental and economic factors (further discussion on sustainability is provided in the main SMP document). Only minor changes were made, although it was recognised that at many sites, management of coastal retreat would be necessary and that the document should identify the need for measures to be in place to deal with loss of land and property. Where changes were made, further assessments were undertaken.

Once the draft preferred scenario had been defined, Policy Units were finalised; these are simply frontages for which a discrete shoreline management policy applies.

The draft preferred scenario was discussed with, and reviewed by, the CSG and agreed in principle.

A.6.4 Confirm Preferred Scenario

Once the preferred scenario had been agreed, economic analysis was carried out. Although economic considerations had been taken into account in the development of the scenarios, up to this stage no quantification had been undertaken. **Appendix H** includes details on the analysis undertaken.

It should be noted that this assessment was not to establish the economic justification for a scheme. The assessment was used to gain a broad understanding of the economic robustness of the preferred policies, i.e. whether the policy was:

- clearly economically viable;

- clearly not economically viable; or
- Potentially economically viable (and therefore may be in need of more detailed assessment at a later date, e.g. as part of a strategic plan, although some commentary on this is provided within this report).

In some locations information was available from existing strategy studies and scheme Project Appraisal Reports. These documents contain detailed information on assets, benefits, and management costs. These data sets have been used where appropriate and directly applicable, but problems in using such data relate to differences in:

- the timeframe – as many strategies have looked at economics over only 50 years and use different discount factors to those now required by Treasury;
- the area determined to be at risk, which may differ from the SMP (particularly due to the timescale issue noted above);
- the preferred option, which may differ from the SMP.

Therefore new data has also been derived. Losses and benefits have been calculated only on the basis of residential and commercial property values; these have been determined using a GIS (ESRI ArcGIS) along with Defra FCDPAGN calculation sheets, which enabled the timing of property loss to be determined using the risk zones defined as part of the policy assessment and no active intervention baseline scenario. Other assets such as utilities, highways, have not been valued nor included and intangibles such as recreation and impacts upon the local economy or environment are also not included. This is in accordance with the 2006 SMP PG (Defra, 2006).

The cost of implementing the proposed policy has also been broadly calculated, assuming the implementation measures to be used. See **Appendix H** for further details on data used in the economic assessment.

A.6.5 Draft SMP Document Preparation

A draft version of the main SMP was produced to clearly present the Plan and the associated policies for review and consultation. This includes:

- Details on the objectives of an SMP and its status;
- A non-technical explanation which gives background to development of the Plan and discusses concepts of sustainability;
- An overview of the Plan and its implications for the SMP coastline as a whole;
- Statements for each policy unit outlining:
 - Details of the policies and their implementation;
 - Justification for the policies; and
 - Implications for local objectives.
- Mapping to support the statements.

All supporting information is included in the accompanying Appendices as discussed within this document.

A.7 Stage 4: Public Examination

A.7.1 Gain Approval in Principal

Prior to a final version of the SMP document being produced, the Plan was presented to the CSG in September 2009. The policies and their justification were presented to the group for further discussion, following which it was agreed that the preferred policy scenario could go forward to presentation to the EMF and public consultation.

A.7.2 Confirm Consultation Strategy

A strategy for the public consultation exercise was agreed through discussion with the PMG/CSG.

The following were agreed by the group:

- The most appropriate method of dissemination is through manned public exhibitions;
- Prior to the open public exhibitions, key stakeholders would be invited to a presentation and workshop to discuss the SMP in more detail;
- The exhibitions should be held in the areas that provide good coverage of the wide SMP area to allow as many people to reach them as possible;
- The local press should be used as much as possible both for educational purposes and advertisements, including a media launch event;
- There is a need for a leaflet explaining the background and principles of the SMP;
- There may be a need for additional meetings to be held for certain stakeholder groups.

It was decided that the Environment Agency would lead and manage the consultation process, including the collation of comments received.

A.7.3 Public Consultation

(a) Consultation Activities

The consultation period began on 9th October 2009 with a closing date for comments of 8th January 2010, although a number of further comments were also received after this deadline.

The full consultation document, including all appendices and maps, was available in electronic format on the North Devon & Somerset Coastal Advisory Groups' website www.ndascag.org. Printed versions of the consultation document were also available for inspection at the offices of each local authority member of the coastal group and in libraries across the SMP area.

The public and businesses were invited to a series of public exhibitions, where officers of local authorities and the Environment Agency and staff of Halcrow were present to discuss the proposals contained in the draft SMP. Information boards were displayed at each of the exhibitions with an accompanying slide show.

The public were invited to comment on the draft SMP proposals and a consultation response form was made available for download or completion on-line on the North Devon & Somerset Coastal Advisory Groups' website.

(b) Collation of Consultation Responses

The responses received from residents, businesses, Parish Councils and other organisations were in a variety of formats:

- Individually written letters
- Individually written e-mails
- Comments at the public exhibitions
- Individually completed consultation forms downloaded from the website
- Pre-printed forms signed by consultees (see **Appendix B**).

Upon receipt, each response was given a unique reference number and entered into a Stakeholder Database maintained by the Environment Agency. All responses were then passed onto Halcrow to collate and review. All comments were collated in a responses table according to the section of coast or part of the SMP the comments referred to. The details recorded included the name, address and the postcode of the person making the comment and a summary of the response.

(c) **Assessment of Consultation Responses**

Using the data collated in the feedback report (refer to **Appendix B**), Halcrow analysed the responses to identify key issues and concerns raised. A Consultation Report documenting their conclusions was produced and provided to the NDASCAG for comment. This identified a number of areas where the draft policies required further consideration to address issues and concerns raised through the consultation.

A.8 Stages 5 and 6: Finalise and Disseminate Plan

A.8.1 Revisions to Draft SMP

The Consultation Report was reviewed by the North Devon & Somerset Coastal Advisory Group (NDASCAG). In response to this document and through discussion with the NDASCAG, a report addressing the concerns raised through the consultation process was produced (see **Appendix B**).

Following consideration of comments, a case was identified to justify a change to some of the SMP policies presented in the original consultation draft. Alterations and additions to other sections of the SMP were also made, where necessary, in response to comments received. The changes to the final SMP policies from the consultation draft are set out in Section G.1.2 of **Appendix G**.

A.8.2 Develop Action Plan

An Action Plan for implementation of the plan has been produced. This document outlines the steps required to ensure SMP recommendations are taken forward in the immediate term, both in planning and coast defence, and identifies the need to initiate further studies/actions to facilitate the implementation of the longer-term plan. Some of these actions, such as consideration of compensation measures, will require decisions to be made at government level.

A summary of the Action Plan is provided in Section 6 of the main Plan document. Further detail for each action provided in tabular format in line with national guidance for ensuring action plan information is provided in a consistent way across England and Wales, in order to allow ease of future monitoring and reporting of progress, is presented in **Appendix M**.

A.8.3 Finalise SMP

Following consideration of comments raised, the SMP has been finalised and reviewed by the NDASCAG ready for dissemination.

A.8.4 Dissemination and Implementation of The Plan

The NDASCAG will be responsible for making the SMP accessible and for publicising its completion. It will also be the responsibility of the Coastal Group to promote and monitor progress, with the Action Plan retained on the agenda for all future Coastal Group meetings. The North Devon and Somerset SMP website (part of the NDASCAG website) will have an 'updates' page on which this Action Plan will be placed and progress against the actions reported. This will include identification of the implications of any study outputs or wider developments for the relevant SMP policies.

It is not possible at this time to set a date for the next review of the SMP. It is considered likely that a 5 to 10 year period may be appropriate, however it is vital that changes in understanding or the shoreline management framework are monitored to establish if there comes a point (within the next 5 to 10 years) that the SMP policies become sufficiently out of date as to warrant a full review of the plan. This will be a judgment made by the Coastal Group.