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Shoreline management plan guidance Volume 1: Aims and requirements

March 2006







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Foreword

Since we introduced the original guidance in 1995, shoreline management plans (SMPs) now cover the entire shoreline of England and Wales. However, the SMP initiative was a new idea and we have learnt much.

Although existing SMPs are excellent strategic documents, they need:

- more emphasis on improved links with the planning system;
- more consideration of effects on the environment; and
- longer-term coastal policies.

In 2001 we produced an updated guide, taking account of all the lessons we had learnt.

We also considered that more research was needed into how the coast would change. We asked for national research on coastal changes in England and Wales (a 'future coastal evolution study', known as Futurecoast), which was completed in 2002. This research will be important for SMP reviews.

SMPs offer coastal operating authorities an opportunity to assess longer-term implications for protecting the coast. As a result, we have prepared this guidance with the main operating authorities and other people who have an interest in the coast.

The process will involve stakeholders (see the glossary) at all levels working to achieve a better balance between economic, social and environmental development in managing coastal risks. They will also support river basin management plans under the Water Framework Directive (see the glossary) and other coastal initiatives, including the new integrated coastal zone management strategy (see the glossary).

Flood Management Division
Department for Environment, Food and Rural Affairs
March 2006

Acknowledgements

We (Defra) have issued this guidance following full consultation with a wide range of interested people, and the Welsh Assembly Government (WAG) will use it. We are grateful for the advice and guidance of the steering group members and others who have provided useful comments while developing this guidance. Below are members of the steering group.

Mr J Hutchison, Defra (Chair)

Mr T Collins, Natural England

Mr P Frew, North Norfolk District Council

Mr S Herrington, Shepway District Council (now independent)

Mr K Keirle, Welsh Assembly Government

Mr P Murby, Defra

Mr C Pater, Natural England (now English Heritage)

Ms J Rawson, Environment Agency

Mr R Spencer, Arun District Council

Mr G Watson, North Norfolk District Council

Mr S Worrall, Environment Agency

A group of companies (led by Halcrow Group Ltd) developed this guidance. The project manager was **Mr A Hosking** and the project director was **Mr K Burgess**. As part of the group, many people and organisations from across the UK involved in managing floods and the coast contributed to the guidance.

We are grateful for all the contributions and comments we received.

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1.1 SMP guidance documents

This document is the first of two volumes providing guidance on 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 bestpractice 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 this volume to explain some of the terms we use.

1.2 Background

A **shoreline management plan** (SMP) is a large-scale assessment of the risks associated with coastal processes (see the glossary) and helps to reduce these risks to people and the developed, historic and natural environment. In doing so, it is an important part of our and the Welsh Assembly Government's strategy for managing flooding and coastal erosion. The strategy aims to manage risks (see box A on page 5) by using a range of methods which reflect both national and local priorities, to:

- reduce the threat of flooding and erosion to people and their property; and
- benefit the environment, society and the economy as far as possible, in line with the Government's 'sustainable development principles' (see the glossary).

In 1995, the former Ministry of Agriculture, Fisheries and Food (MAFF) and the Welsh Office published guidance for operating authorities (such as maritime local authorities, the Environment Agency and internal drainage boards) on preparing SMPs. It was often necessary for these operating authorities to work with neighbouring authorities, as voluntary coastal groups, to produce an SMP which covered a number of administrative boundaries. In all cases, one operating authority was named as a lead authority to have overall responsibility for producing the SMP (see box B on page 6).

Box A: Stages in assessing the risk of floods and erosion (after our guidance, known as FCDPAG4 'Approaches to Risk')

There are a number of stages involved in achieving the aims of the current strategy for flood and coastal defence, from large-scale planning (that is, developing SMPs for shorelines and catchment flood management plans (CFMPs) for river catchments), to strategies, developing schemes, and assessments after a project has ended. Each stage needs an understanding of coastal processes, coastal defence needs, environmental considerations, planning issues and current and future land use, but in appropriate detail. Assessing risks is an important part of the appraisal process at each stage to make sure that the decisions you take at that time are effective and based on an awareness of the consequences and appropriate measures.

Stage	SMP	Strategy	Scheme
Aim	To identify policies to manage risks.	To identify appropriate schemes to put the policies into practice.	To identify the type of work to put the preferred scheme into practice.
Delivers	A wide-ranging assessment of risks, opportunities, limits and areas of uncertainty.	Preferred approach, including economic and environmental decisions.	Compare different options for putting the preferred scheme into practice.
Output	Policies.	Type of scheme (such as a seawall).	Design of work.
Outcome	Improved management for the coast over the long-term.	Management measures that will provide the best approach to managing floods and the coast for a specified area.	Reduced risks from floods and coastal erosion to people and assets (see the glossary).

The first round of SMPs has been completed around the coastline of England and Wales (see figure 1 on page 7). These SMPs were based on sediment cell boundaries (see the glossary), relating to the movement of sand and shingle along the coast. The boundaries of these cells were originally set at locations where the net 'along shore' movement (see the glossary) of sand and shingle changes direction. At some places, the area covered by an SMP differed from these sediment cell boundaries, due to different requirements, such as the area covered by a coastal authority. For the SMP reviews, we recommend an approach which looks at how and why the coast changes, known as a behavioural systems approach. This approach was developed as part of the Futurecoast project (author: Halcrow 2002) and is described in more detail in appendix D (volume 2). A review of the appropriateness of existing boundaries is included as appendix E (volume 2).

Many operating authorities have followed the recommendations of their SMP as a basis for producing (where necessary) individual strategy plans, monitoring programmes, carrying out studies for all or parts of their coastline, and for putting appropriate schemes into practice.

Box B: Coastal groups and SMP steering groups

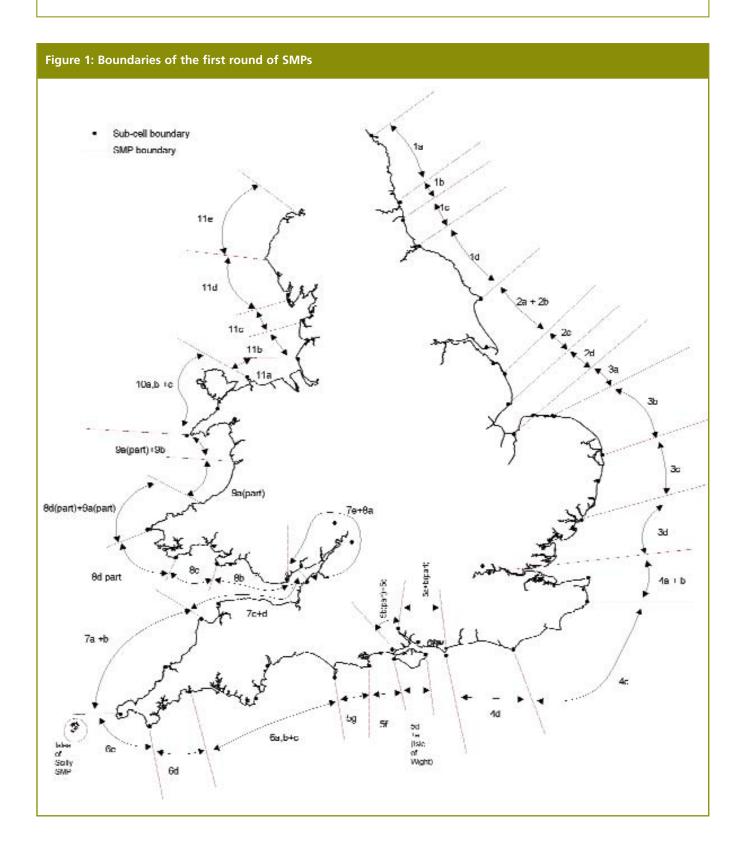
Groups of operating authorities and other relevant organisations have been or should be set up to supervise the SMP process. These groups should:

- supervise how SMPs are put into practice;
- develop strategic plans and monitor how they are put into practice;
- monitor progress;
- act as the client steering group (CSG) while reviewing and amending the SMP;
- work closely with the work of the Regional Coastal Authority Group (and other coastal groups) on all coastal issues; and
- make sure that we and the Welsh Assembly Government (WAG) are fully involved.

Groups will vary in their membership, but should generally include the following.

- A chairperson and technical secretary, preferably from the lead authority
- All authorities with an operational responsibility in the plan area (including a representative from the Environment Agency)
- A representative from the relevant regional or local planning authorities (to provide a link to developing coastal planning policies in local authority development plans)
- Natural England and Countryside Council for Wales (CCW)
- Important organisations who have an interest in the shoreline
- Defra Flood Management Division (us) and WAG

Annex A gives a list of existing plans and the operating authorities that took the lead in producing the first round of plans.



1.3 Lessons learnt and revised guidance

In 2001, we produced 'Shoreline management plans: A guide for coastal defence authorities' following a review of the strengths and weaknesses of the first round of SMPs in 2000. The 2001 guide took account of the lessons we learnt from the first round of SMPs. This identified a series of changed requirements and considerations for producing the next plans, as well as providing the aims and ambitions for future SMPs. We then produced guidance to explain the methods to achieve these aims and ambitions. When developing the guidance, we further improved the content of the 2001 guidance, which reflected new information (such as Futurecoast, Coastal Habitat Management Plans (CHaMPs), the MAGIC website (a web-based map which brings together information on key environmental schemes) or new requirements (such as looking at managing risks from flooding and erosion over a longer time period, such as 100 years). As a result, this document is an update of the 2001 guide for local defence authorities.

Through setting high-level targets (see the glossary), we are encouraging people to produce future SMPs around the coastline of England and Wales. As a result, this document is aimed mainly at the operating authorities and their technical advisers. It will also be useful to other organisations with coastal interests, including local planning authorities and conservation groups.

This guide includes the main messages from the 12 advisory notes produced by the SMP Advisory Group in 1998. You should also read the series of Flood and Coastal Defence Project Appraisal Guidance (FCDPAG) documents (Defra 1999 to 2004) and especially FCDPAG2 'Strategic Planning and Appraisal'.

Future SMPs should build on the first round of plans, taking account of information collected or changing circumstances. This guidance reflects the lessons we have learnt from the first round of plans and three second-round 'pilot' SMPs carried out as part of developing the guidance, and stresses the following important issues.

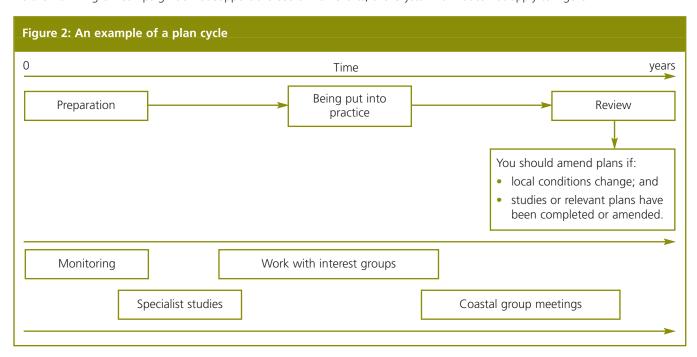
- A clear focus on assessing and managing flooding risks and coastal erosion over a consistent timescale (100 years).
- Recognition that the current SMP policy may no longer be practical or acceptable in the future. In these circumstances, the preferred policy should include a plan for moving from the current SMP to another policy.
- Awareness of the longer-term implications (50 to 100 years) of coastal change, climate change and rises in sea levels.
- Awareness of the uncertainties associated with predicting future requirements for managing the shoreline.
- Mapping coastal risks, covering risks from flooding and erosion.
- More efficient and focused consultation, with stakeholders invited to comment on preferred policies (see the glossary) and their likely consequences. The adopted policies should take account of all the comments received. If the adopted policies are different from the preferred policies, you must clearly give the reasons and consequences.
- The importance of guiding and supporting the planning system in discouraging inappropriate development in areas at risk from flooding or coastal erosion.
- Considering estuaries within the SMP process and links with the catchment flood management plan process.

- Identifying the consequences of adopting particular policies, in appropriate detail. This should involve, among other things, assessing the implications of policies on European sites, biodiversity objectives (see the glossary) and other national targets and objectives relating to the natural and cultural environment.
- Identifying the expected sources of funding for any coastal defence work or operations that might be needed to put the adopted policies into practice.
- The value of a standard format for plans.
- The value of providing the plan on CD-ROMs and the internet, although you may need to deal with copyright issues.

You should review SMPs and, where necessary, amend them at appropriate intervals to include up-to-date information and reflect changes in policy guidance (see figure 2). This will lead to producing updated SMPs. Coastal groups should make sure that the SMP process continues between preparing and amending plans. This should involve:

- maintaining the SMP for example, updating databases with new information, and recording new and emerging issues;
- maintaining an action plan and dealing with the issues within a set timescale, taking account
 of the need for any coastal defence work;
- carrying out the essential monitoring and studies, and preparing strategy plans;
- encouraging local planning authorities to use the findings from the plan;
- sharing the main experiences and lessons learnt in preparing the SMP, and putting it into practice, at local, regional and national conferences and meetings; and
- maintaining links with the wider coastal and marine activities through the integrated coastal zone management strategy and future river basin management plans under the Water Framework Directive.

As the Plain English Campaign do not support the use of flowcharts, the Crystal Mark does not apply to Figure 2.



Chapter Two: Objectives and general principles



Shorelines constantly change due to waves and tides. The amount of physical change depends on many things, and happens over timescales from seconds to centuries. The changing coastline has also been influenced by people's actions throughout the years, particularly in attempts to stop the effect of erosion or flooding. In some cases, this has taken place without an appreciation of the effect these actions could have on other places up and down the coast.

Although these changes continue, social, economic and environmental pressures are increasing in the coastal area. People enjoy living by and visiting the coast, and the pressure for more housing is increasing. As international trade increases, so does the demand for port space and associated coastal-based industry. This sort of development places stress on natural coastal habitats that are often unique and of national and international importance.

2.1 Objectives

An SMP should provide the basis for policies for a length of coast and set the framework for managing risks along the coastline in the future.

The objectives of an SMP need to be in line with the Government's strategy (Defra 2005) for managing risks from floods and coastal erosion (also see our website: www.defra.gov.uk/environ/fcd/policy/strategy.htm) and should:

- set out the risks from flooding and erosion to people and the developed, historic and natural environment within the SMP area;
- identify opportunities to maintain and improve the environment by managing the risks from floods and coastal erosion;
- identify the preferred policies for managing risks from floods and erosion over the next century;
- identify the consequences of putting the preferred policies into practice;
- set out procedures for monitoring how effective these policies are;
- inform others so that future land use, planning and development of the shoreline takes account of the risks and the preferred policies;
- discourage inappropriate development in areas where the flood and erosion risks are high; and
- meet international and national nature conservation legislation and aim to achieve the biodiversity objectives (see the glossary).

2.2 General principles

An SMP should identify the best approach or approaches to managing risks over the next 100 years from flooding and coastal erosion (including cliff instability) both for individual areas and the wider coast. The plan should set out whether to defend (or continue to defend) assets (see the glossary) with coastal defences or manage the risks in other ways. It should be based on an assessment of conditions in the plan area (and, where appropriate, neighbouring plan areas) rather than detailed studies of individual sites.

Previous SMPs developed 'coastal process units' and 'management units' (which are defined in the glossary) to describe recommended policies, but these will be replaced by 'policy units' which may

not match the original boundaries. Policy units are simply lengths of shoreline for which a separate shoreline management policy applies. These should be divided, as necessary, to reflect changes in policy over time and significant differences in policy implications. We do not expect policy units to be defined until the policy development stage of SMP reviews (see volume 2, stage 3).

'Sustainable' shoreline management policies will be those which take account of the relationships with other defences, developments and processes, and which avoid, as far as possible, committing future generations to inflexible and expensive options for defence. Putting the policies into practice should benefit stakeholders and help to improve the environment both nationally and locally. This will not always be possible, but should be an important goal of the SMP.

Decisions should be based on a good understanding of coastal processes and how they affect existing coastal defences and assets. However, this will not always be the case as there may be a lack of understanding of processes in some areas. In these cases, a wide-ranging approach which highlights the main things that will influence policy selection can be valuable.

Each length of shoreline is currently managed in a particular way (the current SMP policy). However, for various reasons this policy may no longer be practical or acceptable at some time over the next 100 years. For example:

- the current management approach may not be appropriate for managing existing risks;
- the current defences may have a limited life and improvements may not be economically, technically or environmentally practical; and
- changes in the shoreline may result in new approaches being necessary to manage future risks to the developed, historic and natural environment.

As a result, an SMP should identify the combination of policies that are likely to be practical and acceptable over the next 100 years. This may involve continuing to put the current policy into practice or putting another policy into practice at some time within the next 100 years. You should clearly identify the operations and management activities needed to achieve this change and set out an estimated timetable. This preferred order of management approaches is the shoreline management plan. The SMP must also guide and support the planning system in discouraging inappropriate development in areas at risk from flooding and coastal erosion.

The timing of any change in shoreline management policy, in most cases, cannot be defined precisely. However, it will usually reflect a combination of technical, social, economic and environmental factors that may change over time. The move from the current policy to another policy will need planning and discussion with a range of interested people (landowners, occupiers, businesses, the local planning authority and conservation groups). This should allow in-depth discussions to take place with the relevant people so that you can identify and deal with possible conflicts.

Solutions for current and future problems must take place over the long-term. For this reason, your SMP should clearly define the implications of longer-term coastal change (more than 50 to 100 years) for managing the shoreline. This is particularly important where the scale of predicted coastal changes means that current approaches to reducing risk may no longer be practical at some time in the future. In doing so, SMPs can begin to let policy-makers and the public know about the need for longer-term solutions to natural coastal change, climate change and a rise in sea levels. In many cases we expect that achieving the long-term plan will depend on spatial planning (see the glossary) to put into practice necessary changes in the way the coast is used.

At a time when the country is having to increase the number of houses available, planning arrangements may need to be made to make up for any losses of land set aside for residential development that will result from the SMP (for example, by making other land available for building). Regional planning initiatives will need to consider shoreline management policies and make sure that future proposals and investment for regional development take account of risks from floods and erosion.

Local authorities should consider the risks identified in SMPs. Before approving development in areas at risk of flooding and erosion, they should take account of any long-term coastal change identified in the SMP.

The SMP will also provide useful information for private land and property owners who will need to consider how they will deal with these changes. Operating authorities, local government and national government do not have a duty to provide protection against flooding or erosion. Nor is there any reason to assume that this will change in the future or that individual losses would be compensated for from public funds. However, operating authorities should work with other relevant authorities and the Government to assess the effects and promote community confidence where new (or improved defences) cannot be provided in the future.

2.3 Managing risks: shoreline management policies

Managing the shoreline involves identifying the best ways to manage risks to people and the developed, historic and natural environment, and how to put these into practice. A range of responses is available for managing risks (see FCDPAG4 'Approaches to Risk'), including:

- removing risks by avoiding or moving inappropriate development in vulnerable areas (such as through planning how land is used);
- reducing the likelihood of damaging events through management work that prevents damage (such as managing beaches, cliffs, dunes, saltmarshes and so on) or using back-up and secondary defence systems (such as for tidal defence);
- reducing the consequences of risks by providing early-warning systems (such as flood warning systems operated by the Environment Agency); and
- reducing the risks associated with potentially damaging events through flood and coastal defence schemes or altering buildings to reduce the chance of flood damage.

The most appropriate measures will depend on the problem, and on technical, environmental, social and economic circumstances. Some of these approaches are not covered by shoreline management. However, in many cases the response will involve a combination of measures including, for example, working with local planning authorities to achieve the same objectives.

Below are the four SMP policies available to shoreline managers.

• **Hold the existing defence line** by maintaining or changing the standard of protection. This policy should cover those situations where work or operations are carried out in front of the existing defences (such as beach recharge (see the glossary), rebuilding the toe of a structure, building offshore breakwaters and so on) to improve or maintain the standard of protection provided by the existing defence line. You should include in this policy other

policies that involve operations to the back of existing defences (such as building secondary floodwalls) where they form an essential part of maintaining the current coastal defence system.

- Advance the existing defence line by building new defences on the seaward side of the
 original defences. Using this policy should be limited to those policy units where significant
 land reclamation is considered.
- **Managed realignment** by allowing the shoreline to move backwards or forwards, with management to control or limit movement (such as reducing erosion or building new defences on the landward side of the original defences).
- **No active intervention**, where there is no investment in coastal defences or operations.

Note: All the policies above will need to be supported by monitoring and must (when put into practice) take account of existing health and safety legislation.

In some cases, it is more appropriate to consider the defence line as a zone of defences protecting assets, particularly in those situations where there is a series of structures (such as seawalls) and landforms (such as beaches and dunes) which together provide coastal defence. Adding new components to this series of defences should generally be viewed as improving the defence, rather than moving the shoreline.

By working with natural processes (such as tides and the weather), you can reduce risks while allowing natural coastal change. This may range from measures which try to slow down rather than stop coastal and cliff erosion, to measures that deal with public safety issues (such as promoting the build-up of a beach in front of an unprotected cliff, preventing water from leaking onto coastal slopes, and flood warning systems).

We want to highlight the importance of existing natural defences (such as sand dunes, saltmarshes and shingle ridges) in delivering effective policies to manage coastal and flood risks. If these are under threat due to fixed defence structures, you should consider measures to restore or recreate natural defences.

In other cases, you might take measures to maintain the natural standard of defence on shorelines that are increasing (for example, by managing areas of erosion along sand dunes). If appropriate, these measures will be the preferred policy approach.

2.4 Policy appraisal

When choosing policies, you need to take account of technical, environmental, social and economic factors, in line with the Government's strategy for managing floods and coastal erosion. However, you also need to consider local factors when deciding how these policies are most appropriate to particular areas and circumstances. Despite this, it is essential that the policies in the SMP are realistic, using existing legislation and likely future funding. A plan that has long-term policies should not be driven by short-term objectives. Although the plan should be flexible enough to adapt to changes in legislation, politics and social attitudes, you should develop the SMP policies based on current legislation.

To identify and take account of these factors, assessing and choosing policies should include the following steps.

- Identifying a preferred plan (being the most sustainable that is, avoiding tying future generations into inflexible or expensive options for defence). Appropriate policies for each policy unit will be based on an analysis of the available information, taking account of technical, environmental, social and economic factors.
- Interested people examining these policies.
- Adopting the SMP and associated policies after considering all comments and responses from people who were consulted, which may result in the adopted policy being different from the preferred policy.

If technical, environmental, social and economic factors do not support the adopted policy, it is important that this is clearly shown in the plan. If there are significant uncertainties about future conditions, you will need to identify the studies that would be needed to deal with the outstanding issues. The aim is that, by the next SMP, any existing uncertainties will be solved so that it is possible to define a single policy for each unit (for each time period), rather than offering alternatives.

You should not automatically adopt the policy of holding the existing defence line. You should thoroughly assess and compare other policies, including a broad assessment of the longer-term costs and the effects on natural processes (including, for example, pressures on regional demands for sand and gravel). You should consider technical, environmental, social and economic requirements, including whether the policy is practical in the long term.

Individuals and some private organisations have rights or powers to protect their own property, although under existing laws permission is needed before work can be carried out. On many coasts there are lengths of coastal defences that are privately owned and maintained. SMPs will help you to understand the relationship between any private defences and the risks elsewhere (for example, the wider community). This will provide evidence for authorities when considering any application to introduce new or amended defences.

When assessing policies for particular policy units (see the glossary), you will need to take account of the relationship with other parts of the coast and give equal consideration to achieving requirements in those areas.

Policies for units will need to consider the following.

- The effects of coastal processes throughout the SMP (or within a coastal process unit where these can be defined).
- The possible effect of the policies on coastal processes elsewhere in the SMP area or, where relevant, outside the SMP area.

The SMP will be made up of a number of policy units (see the glossary) which are developed from a combination of policies for any changes over time at each location. When assessing policies, you will need to consider the implications of different combinations of policies on any linked shorelines, and their proposed policies, for all three epochs (see the glossary) (see tasks 3.1 and 3.2, volume 2).

2.5 Involving and consulting people

The approach you use for involving people will depend on the SMP you are developing. Volume 2 (task 1.3 and appendix A) provides guidance on the type of approaches and techniques you could use. Your SMP should include full details of the approach you are using, including details of who you have consulted, the responses you have received and the actions you have taken. This is necessary to show that you have carried out consultation effectively.

Whichever approach you use, you should consult people at least during the following main stages in developing your SMP.

Stage 1

You should contact all stakeholders to:

- let them know that you are preparing an SMP and make them more aware of the SMP's aims and objectives;
- ask for relevant information so that they are involved in the project as far as possible; and
- identify the main stakeholders and other people you can consult.

Stages 2 and 3

You should involve stakeholders (including councillors and regional flood defence committees) to:

- make sure all the information you use is correct;
- make them more aware of coastal change and risks; and
- make sure that representatives of interested people have an opportunity to tell you their ideas, opinions and concerns.

Stage 4

You should consult your stakeholders and the general public to:

- let them know that you have prepared an SMP; and
- give them the opportunity to support or object to the proposals.

Stage 5

You should contact councillors, regional flood defence committees, planners and so on to:

- let them know about proposed changes to the final SMP (based on consultation responses);
 and
- request that they adopt the SMP.

Stage 6

You should make the general public and everyone you have consulted aware of:

- where they can see a copy of the adopted SMP; and
- how you are putting the agreed actions into practice.

You should include in your SMP full details of the methods you used, including the people you consulted, the responses you received and the actions you have taken.

This is necessary to show that the consultation you carried out has been effective, and that the decisions you have made are transparent and auditable (see below), so that interested people can understand why a decision has been made and what information it is based on. In line with good practice, throughout the consultation process you should give stakeholders and the general public an opportunity to let you know what they think about the policy options. You should clearly describe the environmental consequences of other policies in the consultation draft plan, and consider comments before you adopt a policy. In the final SMP document, you should clearly explain the reasons for choosing the preferred option as well as its environmental effects.

You should use different types of communication (such as local consultation meetings and seminars, non-technical public-relations leaflets, newsletters to households, summary documents, public exhibitions and adverts in the press) depending on the target audience and the type of information. Local authorities and the Environment Agency should use their experience in public consultation to make sure the public is fully and suitably involved in developing the plan. When considering the type of consultation and involvement that is appropriate, the following three points are important.

- 'Transparency and auditability', so that interested people can understand why a decision has been made and what information it is based on.
- Clear explanations of the terminology.
- What the shoreline management policy will cover and the rights people have to influence it.

2.6 Influencing the planning process on how land is used

It is important to avoid placing extra responsibility on future generations by unnecessarily increasing the number of areas needing to be protected. Although regulating how land is developed and used is the responsibility of the planning system (see box C on page 18), the need to reduce risks to people and the developed, historic and natural environment is a shared objective. So too is the need to avoid damage to European sites (see the glossary) and identify opportunities for protecting and improving the environment. An SMP should give people involved in planning information on coastal risks and the preferred approaches for managing the shoreline. This information will help to make sure that:

- future development does not take place in unsuitable areas at risk from flooding, coastal erosion and cliff instability;
- development is restricted in possible areas of managed realignment (see the glossary); and
- development does not affect the natural balance of the coastline, to the extent that erosion is caused elsewhere or that further or improved coastal defences have to be built and maintained.

Box C: The planning system

The planning system ensures how land is developed and used, encouraging and promoting urban and rural development while minimising damage to the environment. In England there is a structure of plans covering national, regional and local planning, which includes national planning policy statements, regional spatial strategies and local development frameworks. At the local level, planning is carried out by local planning authorities whose administrative area (and, so, limit of control) normally ends at mean low water mark (see Chapter Two 2.3). The two most important functions of planning authorities are preparing local development frameworks and controlling development by making decisions on planning applications.

Under the Planning and Compulsory Purchase Act 2004, local planning authorities must prepare a local development framework. County councils will be responsible for preparing a minerals and waste development framework. The local development framework should include the following development plan documents.

- A core strategy, which should set out the main part of the planning framework for the area.
- Land set aside for particular uses.
- Area action plans (where needed), which should be used to provide the planning framework for areas where significant change or conservation is needed.

Also, all planning decisions (either by the local planning authorities or the Secretary of State) must be made in line with the development plan, unless there are overriding circumstances. This, in effect, means that proposals that are in line with the development plan would be given preference. As a result, if no policy is set, this could result in development going ahead in areas that might not be suitable.

The development plan framework consists of:

- regional spatial strategies or, in London, the spatial development strategy prepared by the Mayor of London; and
- development plan documents prepared by district councils, unitary authorities, the Broads Authority, national park authorities and, in the case of minerals and waste development plan documents, county councils.

The Government has issued clear statements about the ways in which the planning system can be used to reduce development in areas at risk from flooding, coastal erosion and cliff instability, including the following.

- PPG 14 Development on Unstable Land (Department of the Environment and Welsh Office 1990)
- PPG 14 Annex 1 Development on Unstable Land: Landslides and Planning (Department of the Environment 1996)
- PPG 20 Coastal Planning (Department of the Environment 1992)
- PPG 9 Nature Conservation (Department of the Environment 1994)
- PPG 25 Development and Flood Risk (Department of the Environment, Transport and the Regions 2001), revised draft PPS 25 published for consultation (Office of the Deputy Prime Minister 2005)

- Planning Policy Wales (Welsh Assembly Government 2002)
- TAN (Wales) 14 Coastal Planning (Welsh Office 1998)
- TAN (Wales) 15 Development and Flood Risk (Welsh Assembly Government 2004)

2.7 The relationship with other plans

Working with and sharing information between coastal groups and local planning authorities is important to develop a co-ordinated approach to managing the shoreline. Box D shows how the SMP process and coastal groups can support the planning system in discouraging inappropriate development in areas at risk from flooding, coastal erosion and cliff instability. The plan can also give developers background information about particular sites, so that they are aware of possible problems and the possible precautionary measures that may be necessary.

Box D: The role of SMPs in supporting the planning system

Forward planning

Influence the regional planning process by:

• identifying issues that need to be considered over a wider area than a single planning authority area.

Keep the local planning authority updated on shoreline management issues by:

- identifying areas at risk from flooding and coastal erosion (such as by providing risk maps at an appropriate scale);
- predicting longer-term coastal change and the implications for planning and development;
- working with the local planning authority to identify suitable development plan policies for dealing with risk and shoreline management issues; and
- identifying the main shoreline management issues that have implications for planning how land is used in the plan area or in specific policy units (see the glossary).

If the local planning authority is considering setting aside coastal sites for development:

- provide information on the risks associated with possible development sites; and
- provide information on whether, in principle, any necessary coastal defence work (such as that carried out by the developer) or improvements would be acceptable, or will need significant mitigation work elsewhere, to make up for damages.

Controlling development

Before considering planning applications in defined coastal areas:

• encourage consultation between the relevant operating authority engineers and the local planning authority on individual planning applications, especially on planning conditions, planning duties to reduce risk or amendments to proposed designs.

Due to the complex nature of coastal regions, a wide range of management plans and strategies have been developed to work towards achieving the aim of sustainable management (see the glossary).

Although the relationship between these plans can be complicated, they should influence and reinforce each other and provide frameworks for putting the SMP into practice, including achieving economic, social and environmental objectives. SMPs can support other coastal and estuary management plans, including integrated coastal zone plans (ICZM) (www.defra.gov.uk/environment/marine/iczm/index.htm) by providing information on the expected coastal changes, coastal risks and the preferred approaches for managing the shoreline.

SMPs will be one of several non-statutory plans (that is, not needed by law) supporting river basin management plans (RBMPs) needed under the EU Water Framework Directive. Those responsible for other plans will need to be told about SMPs and be appropriately involved in developing them, to identify appropriate actions that contribute to the programme of measures within RBMPs. You can find more information on the Water Framework Directive, and RBMPs, on our website at www.defra.gov.uk/environment/water/wfd/index.htm.

2.8 The main inputs and outputs

One of the main aims of an SMP is to promote sustainable policies into the next century and provide a timescale for managing risks along the coastline in the future. This will be achieved through inputs and outputs.

The main inputs into the SMP

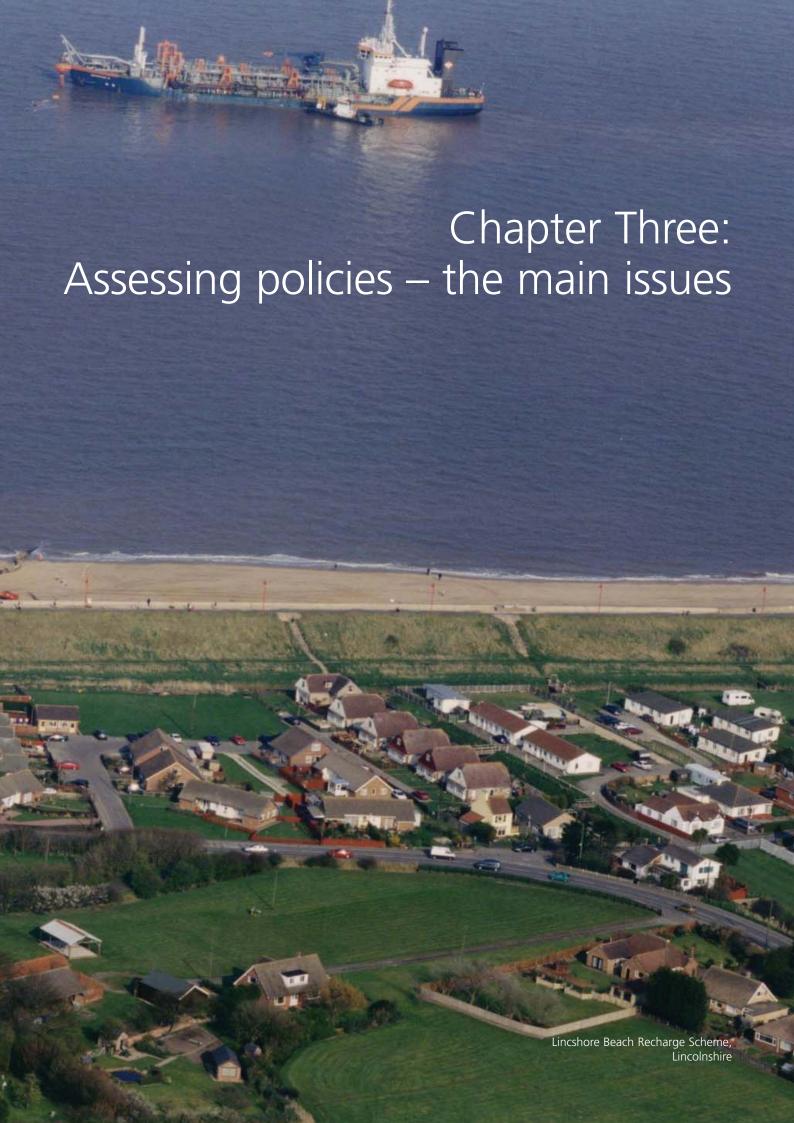
- Up-to-date information and changes in policy guidance and ongoing changes in the shoreline.
- Assessing the risks to people and the developed, historic and natural environment in the SMP area.
- Considering stakeholders' objectives and other planning policies.
- Better understanding of coastal processes and movement of mud, sand and gravel, including reviewing Futurecoast predictions.
- Developing policies that achieve both short-term and long-term objectives without committing to defences that will not be effective.
- Identifying the consequences of putting policies into practice, through considering long-term shoreline response (see the glossary) and change.

The main outputs from the SMP

- A non-technical explanation which gives background information on developing the plan and discusses sustainable management (see the glossary).
- Policy statements for each policy unit, outlining:
 - details of the policies for each time period and how they will be put into practice;
 - justification for the policies; and

- implications for local objectives (including identifying and mapping areas of the coast that will be at risk from flooding or erosion).
- A realistic and affordable action plan for putting the SMP into practice.
- A record of issues and objectives, and how they have been assessed as part of the policy development process.
- All background information used in developing the plan, including the shoreline response assessment and identifying features and issues along the coast.
- Records of how stakeholders have been involved throughout the SMP development.

This will make sure that the SMP process is transparent and auditable, so that it is clear how and why decisions have been made.



You need to deal with the following five main issues when assessing shoreline management policies.

- Coastal defences, including the purpose of and responsibility for defences, the condition, performance and 'residual life' (see the glossary) of existing defences, and other related factors such as the availability of beach recharge material (see the glossary) to meet current and future needs, and the costs of defending in the future.
- How land is used, including coastal communities and social and economic assets, current and future development proposals, agricultural and forestry issues, ports and harbour operations, dredging operations (removing sand and gravel from the seabed), recreation and tourism.
- Historic and archaeological features recorded in historic environment records and areas of high archaeological potential, including maritime archaeological features, scheduled monuments (see the glossary), listed buildings and registered battlefields.
- Landscape, including areas protected for their landscape importance such as national parks, areas of outstanding natural beauty and the heritage coast (see the glossary).
- The natural environment, including the implications of the Conservation (Natural Habitats & c.) Regulations 1994 and biodiversity targets (see the glossary), and other relevant government targets, such as the public service agreement (PSA) target to bring 95% of all Sites of Special Scientific Interest (SSSIs) into favourable condition by 2010 (as defined by Natural England on their website).

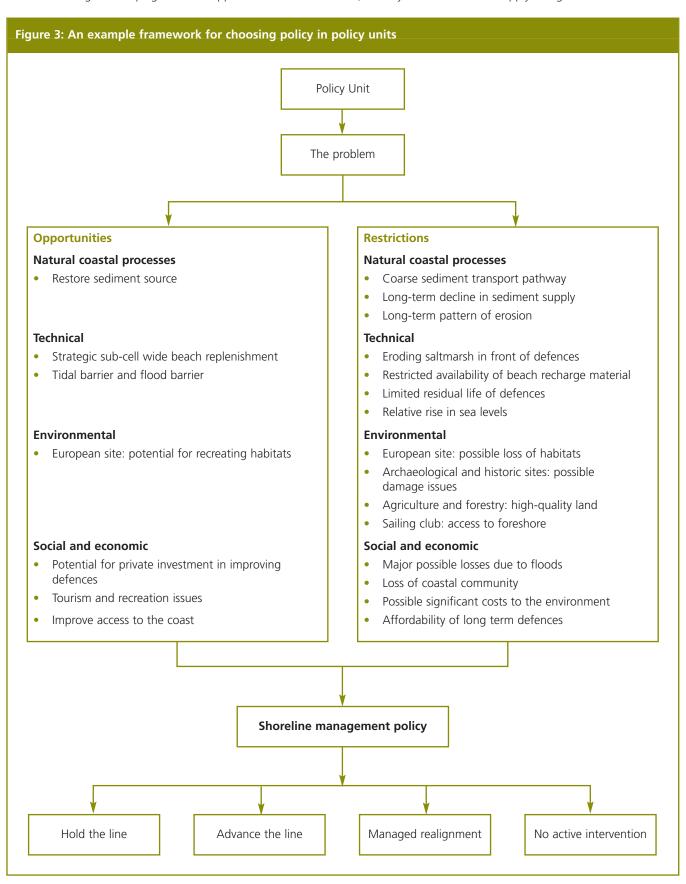
An understanding of coastal processes is essential for assessing all of the issues above and is an important part of the process of developing the SMP.

These issues provide a framework which influences the overall long-term approach to managing the shoreline and the preferred policies for individual policy units (see figure 3 on page 24). The objectives for SMPs are in box E below.

Box E: Policy objectives

- Shoreline management policies should take account of current Government sustainable development policies, any high-level targets (see the glossary), regulations, statutes and climate change guidelines associated with flood and coastal defence (framework objective).
- Shoreline management policies should aim to have no negative effect on any coastal processes (see the glossary) that assets rely on (technical objective).
- Shoreline management policies should take account of the need to maintain, restore or, where possible, improve natural and historic assets (environmental objective).
- Shoreline management policies should take account of current regional development agency objectives and statutory planning policies (social and economic objectives).

As the Plain English Campaign do not support the use of flowcharts, the Crystal Mark does not apply to Figure 3.



3.1 Coastal processes

One of the main requirements of managing shorelines effectively is knowledge of coastal processes in the area concerned. An understanding of the relationship between the coastal processes and coastal defence is essential. You need to consider:

- how the coastline changes; and
- existing information and studies on coastlines.

3.1a Managing shorelines

To make decisions on managing shorelines and planning how land is used, you need to make predictions (or estimates) of long-term changes to the coastline. This is difficult due to the complexity of the natural coast and because changes take place at different timescales and over different distances.

We recommend a 'behavioural systems' approach (see the glossary). This involves identifying the different elements (such as cliffs, beaches, dunes and so on) that make up the coastal environment and how they affect each other. To help guide the SMPs, we and the Welsh Assembly Government worked together in promoting Futurecoast (a coastal process study of the coastline of England and Wales). As well as providing the SMPs with a vision of coastal change in the longer-term, the research also promotes the behavioural systems approach as a way of assessing changes in the shoreline, when looking at a number of policies. Appendix D (volume 2) provides further guidance on using this approach in updating SMPs.

You need to review all available information to develop an understanding of coastal processes and coastal changes at different scales. Annex D1 (volume 2) identifies the main sources of information that should be used with the information provided by Futurecoast (author: Halcrow 2002).

The natural changes in the coast, together with the expected implications of climate change and a rise in sea levels (see box F on page 26), are a significant challenge to managing the shoreline in the future. We expect that there will be increased levels of risk to many coastal assets. In some places, current approaches to reducing risk will not be practical in the future. As a result, it is important that SMPs take account of expected changes in the coast and the implications for future management. In doing so, SMPs can begin to help keep policy-makers and the public updated on the need for longer-term management.

Past changes in the coastline can provide information that is valuable in developing theories on future change. Current coastal landforms have developed since the last ice age so you should consider studies of changes since then. You can do this by studying existing landforms, historical maps, aerial photographs, archaeological records and other published and unpublished sources.

An understanding of the future changes will allow you to identify areas where management problems are likely to arise in the future. These areas could be:

- areas that will continue to change due to erosion or accretion (see the glossary);
- areas that will be increasingly at risk from flooding, erosion or instability;

- areas where maintaining existing defences is likely to become increasingly difficult or expensive; and
- areas that will become increasingly important to the shoreline and coastal defences, such as inter-tidal flats providing protection from waves.

Identifying the areas likely to change in the long-term will help you to develop appropriate strategies for the next 50 to 100 years.

Any study for the future of the coast needs a scientific basis for considering what policies the plan should cover and to what extent. Such studies should also include an assessment of how future climate change is likely to affect the coast.

Box F: Climate change and rising sea levels

The world's climate is constantly changing. In recent years, concerns have been raised, particularly on rising sea levels but also changes in storminess and rainfall. The expected implications of climate change and rises in sea levels are a significant challenge to managing coastlines in the future. As a result, the UK Climate Impacts Programme (UKCIP) has been developing theories of possible change over the next century, with the most recent estimates produced in 2002 (authors: M Hulme and others 2002). For shoreline management, you can get guidance on appropriate allowances for future change from the Defra and Environment Agency research and development report on using the UKCIPO2 theories (produced in 2002).

The UK Government arranged a Foresight project (the report was produced in 2004), to provide more information on flood and coastal defence. The project looked at flood and coastal defence in the UK between 2030 and 2100, considering flooding from rivers and the sea, and the risks of coastal erosion. They used alternative theories to assess the possible scale and nature of future risks, and to assess options for responding to those risks. These theories took account of different social and economic visions of the UK and different amounts of climate change. The future work of UKCIP may include more detailed climate predictions and make specific efforts to predict possible changes in extreme conditions, such as storms. We intend to provide further guidance specific to SMP studies and designing coastal defences when the results of these and other research studies are available.

3.1b Existing coastal information and studies

Since the first round of SMPs was finished, many parts of the coast have been monitored or studied to improve the level of knowledge of coastal processes, changes and landforms. You may need to analyse this information and take it into account when preparing future plans. The following are particularly important.

- Identifying areas at risk from flooding or coastal erosion.
- The relationships between neighbouring lengths of shoreline.

A lot of the information used in the SMP review will be from the existing SMP and any strategies, schemes and studies that have been put into practice since. We have identified a series of nationally available information that is appropriate to developing SMPs. These are outlined in volume 2 (task 1.4 and appendix B). Collecting appropriate information is a very important and often time-consuming part of stage 1 of the SMP (volume 2, stage 1) and should be done early in the programme for updating an SMP.

3.2 Coastal defences

There are already coastal defences and other coastal structures (such as ports and harbours) on many shorelines. It is important to assess how these defences affect coastal processes. How effective they are and their residual lives will affect future coastal changes. Many defences will need major work in the future if existing defence standards are to be maintained or improved.

Operating authorities should make sure that a programme is in place for regularly inspecting all defences. These surveys should provide up-to-date information on the location and type of existing defence structures, together with an assessment of their condition, performance and residual life. Operating authorities should be recording this information in the national flood and coastal defence database. SMP studies should use this database.

3.3 Current and future land use

The need for action to defend the coastline from flooding or coastal erosion arises from the location of many important residential, industrial, commercial, nature conservation and agricultural sites in the coastal zone. The communities and economy of coastal areas can be highly dependent on measures to reduce risks to people and their assets. When reviewing policy, the SMP must take full account of the possible implications of any change in coastal defence, both on the economic assets and the communities they support.

Government guidance has stressed that the policy for development in the coastal zone should be to avoid putting further development at risk – see Planning Policy Guidance (PPG) 20 Coastal Planning (Department of Environment 1992), Planning Policy Wales, Technical Advice Note (see the glossary) 14 Coastal Planning (Welsh Office 1998), the PPG 25 Development and Flood Risk (Department of the Environment, Transport and the Regions 2001) and revised draft PPS 25 published for consultation (Office of the Deputy Prime Minister 2005) and Technical Advice Note 15 Development and Flood Risk (Welsh Assembly Government 2004). In particular, new development should not generally be allowed in areas that would need coastal defences.

Shoreline management policies should take account of development plan policies that might influence the pattern, intensity and type of future development and land use within areas at risk. It is essential to work with the local planning authority and other relevant people when developing an SMP. If the planning authority believes it is acceptable to allow development in areas at risk, there needs to be discussions with developers about funding any necessary defences or improvements. Our funding is targeted to reduce the risks posed to existing assets.

When considering long-term policy, it is important that the SMP considers possible effects on communities and their welfare, and does not focus only on the 'tangible' effects of flooding and erosion (that is, those that have a monetary value).

3.4 Environmental assessment

You should thoroughly assess the environmental effects of all policies before deciding which policy to adopt in the SMP. You should consider both positive and negative effects of options on 'biodiversity' (wildlife and habitats), populations, people's health, soil, water, air, climate factors, landscape, cultural heritage and the relationship between these.

Under Directive 2001/42/EC of the European Parliament and European Council on the assessment of the effects of certain plans and programmes on the environment, a **strategic environmental assessment** (SEA) must be made of plans and programmes that are required by legislative, regulatory or administrative provisions. SMPs clearly set a framework for future development and have much in common with the kind of plans and programmes for which the Directive is designed. As a result, we recommend that operating authorities assess policies using the approach described in the Directive.

The assessment should be done at a level appropriate to the wide-ranging scale of SMPs. It should take account of the fact that more detailed environmental assessments will be done at the strategy or project stage, and should try to avoid repeating work unnecessarily. As with other aspects of developing SMPs, you should use the best available information.

The SMP should include:

- an assessment of the environmental implications of all other policy options you considered;
- a description of measures designed to prevent, reduce and, as fully as possible, compensate for any significant effects the plan has on the environment; and
- a statement of the monitoring measures designed to identify any unexpected negative effects of the plan.

We have dealt with the general implications of environmental laws on flood and coastal management and the responsibilities of operating authorities elsewhere in our guidance (http://defraweb/environ/fcd/default.htm). This guidance (which is not repeated here) covers all levels of planning and assessment for managing risks from floods and coastlines, including assessing and choosing policies for SMPs.

3.4a The historic environment

You should always assess the historic environment (see the glossary) when developing an SMP. This will involve systematically gathering readily available information on the historic environment, including:

- analysing local authorities' historic environment records (previously known as sites and monuments records);
- checking the National Monuments Record (NMR); and
- consulting the appropriate regional team of English Heritage (or Cadw in Wales), on the lists of scheduled monuments, historic wrecks, listed buildings, registered parks, gardens and battlefields.

When collecting information, you should refer to historic landscape character appraisals, where these have been carried out. You can also get information on landscapes of special and outstanding historic interest in Wales from www.ccw.gov.uk.

Assessing the historic environment should include a wide-ranging assessment of the archaeological potential of the area based on its landforms and any recorded archaeological remains. English Heritage is currently funding a programme of coastal archaeology studies called 'Rapid Coastal Zone Assessment Surveys'. However, they do not yet cover the entire country.

As a result, coastal Historic Environment Records (HERs) may not be completely reliable. Experienced HER staff, or a suitably qualified consultant who can relate local information to national priorities, need to assess how important this information is. New fieldwork and surveys should not be needed while preparing SMPs. However, SMP-level assessments may highlight the need for more detailed work while preparing strategies.

English Heritage (Cadw in Wales) is the Government's adviser on the historic environment. They can provide advice on the historic environment so you should always consult them while preparing SMPs. They can also provide guidance where designated archaeological sites, landscapes, areas, historic buildings listed at grades I or II* or its own properties are likely to be affected. You should contact them through the relevant Inspector of Ancient Monuments in the regional offices, who will make sure other relevant staff are involved (www.english-heritage.org.uk).

You should also consult local-authority historic environment advisers. Most local authorities have in-house or shared access to qualified conservation officers (who deal with historic buildings) and archaeological officers (who look after local historic environment records).

3.4b Landscape

Landscapes may be seriously affected by measures to deal with risks from floods and erosion. As a result, it is important that SMPs take full account of the possible effects (both positive and negative) of other policy options for the landscape. Patterns of development within coastal landscapes (including flood and coastal defences) affect the scenic quality of an area, its ability to attract people, the quality of life for residents and the wellbeing of the local economy. The social and economic value of many coastal landscapes for tourism and recreation is often very high. This means you must pay careful attention to developing a plan which, if put into practice, would maintain and improve the landscape. SMP policies should aim to contribute to conserving and improving the landscape and should always take account of existing landscape features.

Maintaining and improving the current landscape is particularly important in areas that have been given official protection for their landscape importance, including national parks, areas of outstanding natural beauty and heritage coasts. However, landscape concerns are not limited to these areas. Local authorities will be able to give advice on other issues.

Many natural or semi-natural landscape features (such as cliffs, sand dunes and beaches) have a high recreational value as well as nature conservation interest. It is important that you fully consider these features, which are often sensitive to coastal risk management and changes in sea levels. The SMP is intended to consider the large-scale sustainability of coastal landscape features. In many cases, these features will need to be allowed to change to survive in response to rises in sea levels and changes in shorelines.

In England, information may already be available through 'Landscape Character Assessments' (www.countryside.gov.uk/LAR/Landscape/CC/landscape/index.asp and www.ccnetwork.org.uk). However, you may need to carry out further work to identify landscape features that are particularly sensitive to the way shorelines are managed. In Wales, a landscape assessment technique called 'the LANDMAP method' is used (you can get more advice from www.ccw.gov.uk).

3.4c Nature conservation

Coastal management measures can have significant effects on nature conservation, both directly and indirectly (for example, through speeding up erosion of intertidal areas in front of the defence structures or restricting sediment supply to these features). It is essential to assess the effects on the natural environment when choosing policies. SMPs will allow you to consider the environmental implications of policies at an appropriate scale for making decisions. This should take account of natural processes and the need to maintain natural features.

Many coastal areas are protected by national and European legislation because of their high ecological value. Even where there are no nationally or internationally designated sites, it is likely that vulnerable features and specially protected species are present. It is important to understand that conserving many coastal landforms, habitats, designated sites and species may depend on maintaining the processes of erosion, accretion or inundation (see the glossary). As a result, you must recognise that interrupting these processes could have serious effects on whether policies are environmentally sustainable and appropriate. In other circumstances, coastal defences may protect important land and freshwater features. You should consider the benefits of working with natural processes and the need to plan for conserving protected features when assessing policy options. In some cases this may mean planning to recreate habitats that are not sustainable in their current location.

When carrying out their flood and coastal defence functions, operating authorities have a duty to **contribute to** and **further** nature conservation. The Countryside and Rights of Way Act also places a duty on authorities to conserve and improve Sites of Special Scientific Interest. You must consider these duties while developing the SMP and particularly when assessing alternative policy options.

When assessing SMP policies over the 100-year appraisal period, you should consider which policy is most likely to meet environmental objectives and requirements. Although there may be a lot of uncertainty on the exact implications of policies over such a period, you should not allow this to distract from the need to assess options against currently agreed environmental targets, obligations and objectives.

Relevant targets currently include:

- UK biodiversity targets in habitat and species actions plans;
- the public service agreement (PSA) target to bring 95% of all Sites of Special Scientific Interest into a favourable condition by 2010; and
- our and WAG's high level targets for operating authorities.

Although the detail of these targets may change over the lifetime of the plan, the broad objectives of maintaining our natural heritage, furthering nature conservation and improving the environment are unlikely to change. Uncertainty over future priorities should not stop you from testing policies against today's targets.

Similarly, when assessing policies you should also consider the need to meet current legal obligations, including the requirement to avoid the deterioration of habitats in European sites. Shoreline management plans set a policy framework for plans and projects that may affect European sites (Special Areas of Conservation or Special Protection Areas). So, to provide a solid

basis for future planning, SMPs should take full account of the need to meet legal requirements under the European Birds and Habitats Directives. An appropriate assessment of the SMP may need to be carried out under regulation 48 of the Habitats Regulations. If you are uncertain about this, you should consult Natural England and seek your own legal advice.

You should consult the relevant conservation organisation at an early stage when developing or reviewing an SMP. Natural England (formerly known as English Nature) and Countryside Council for Wales (CCW) have agreed to play an active part in developing SMPs, with operating authorities working together closely throughout the assessment of policies. Natural England and CCW have also agreed to comment and make recommendations on any environmental opportunities relevant to developing the SMP. We and WAG will take account of Natural England's or CCW's advice before agreeing SMPs.

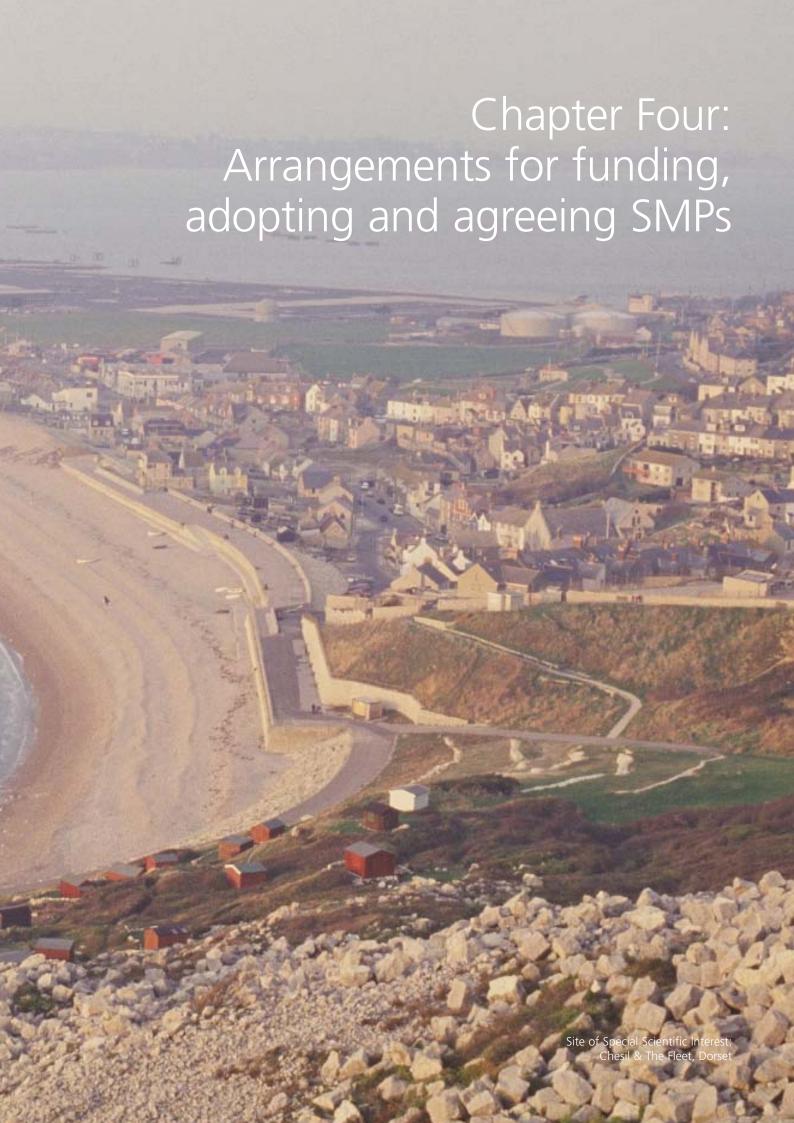
3.4d Coastal Habitat Management Plans (CHaMPs)

ChaMPs are technical documents that provide information for SMPs and coastal defence strategies on the requirements of the Birds and Habitats Directives. They have been, or will be, prepared where there are conflicts between flood management activities and the ecological requirements of Natura 2000 and Ramsar sites (see the glossary), and where it may not be practical to maintain all features in their current location.

Operating authorities (usually the Environment Agency) and Natural England are responsible for preparing a CHaMP where necessary. Seven pilot CHaMPs have been finished and only a very limited number of further plans are proposed. If you need a CHaMP, you should complete it before you prepare the SMP, or while you are preparing it. Natural England and the Environment Agency will give you advice on whether you need to produce a CHaMP.

CHaMPs seek to quantify habitat change and identify options to make up for any negative effects on the sites involved. These may include amending coastal management options to avoid damage or identifying the necessary work to restore or recreate habitats to compensate for any unavoidable negative effects. In relevant areas, SMPs should draw on the information in CHaMPs to provide a framework for managing the shoreline that meets the requirements of the Birds and Habitats Directives.

If a CHaMP states that habitat should be created, it should normally be created in the same SMP area. In exceptional cases where this is not possible, SMP policies will need to take account of the need to create the habitat in a different area, such as in neighbouring SMP areas. The Environment Agency will consider whether catchment flood management plans are able to identify opportunities for creating freshwater habitats.



Studies leading to producing or reviewing SMPs are essentially studies of coastal processes under the Coast Protection Act 1949 or the Environment Act 1995. For most practical purposes, we class the coast as being limited to areas defined in schedule IV (see the glossary) of the Coast Protection Act 1949, which defines the upstream limits of the 'coast' in rivers and estuaries. However, we also accept that many coastal processes do not recognise these fixed boundaries so we are prepared to be flexible where coastal processes may be influenced by the effects of estuaries and rivers. Similarly, boundaries for catchment flood management plans (CFMPs) in estuaries will need careful decisions to avoid any repeated studies. (See appendices E and F, volume 2.) If you have applied for grant aid, you must show that the processes you will study upstream of these boundaries are likely to have a significant effect on considering options for the length of coast concerned and tie in with CFMPs planned in the area. In many areas, CFMPs will be in place before SMP reviews begin.

Grant aid may be available towards preparing and updating SMPs. In England, a nominated coastal defence authority normally applies on behalf of the coastal group or client steering group (CSG). If the CSG proposes a study, they will need to show how they will take account of neighbouring shorelines when preparing a plan.

It is important to consider involving stakeholders while preparing your SMP so that you can gain approvals and adopt your SMP. As a result, you will need to consider reasonable costs as part of your application. However, when you have finished the SMP, any public relations exercises you have carried out and ongoing monitoring of the action plan are not covered by the coastal process study, so you will need to consider other sources of funding.

Once SMPs are in place, we will expect any flood and coast protection schemes to be consistent with them. This means that SMPs will play an important part in approving future schemes, so we advise you to keep us informed about developing and adopting the plan. We will need to be satisfied that the plan has dealt with all the appropriate issues, including that:

- it fully takes account of natural processes and wider environmental, social and economic issues; and
- all reasonable steps have been taken to deal with conflicting objectives.

Our Flood Management Division will work with other colleagues who are responsible for other Defra initiatives (such as water quality) before formally responding to the adopted plan. Once the SMP is complete (including consultation) and adopted by the lead coastal authority, regional flood defence committee, Natural England and the other partner authorities, you should send it to us for our agreement.

This agreement will confirm that we are satisfied that:

- the procedures for developing an overall understanding, identifying and analysing problems and developing policies have been followed in line with current guidance; and
- the SMP meets the principles of sustainable development (see the glossary).

Important note: Our agreement to an SMP does not commit us to any future funding. (An example of an agreement letter is in annex B.)

The SMP will include an associated action plan. This should include a prioritised programme of future strategies, and an outline of future schemes, coastal monitoring and studies. This programme will be useful as the basis for developing medium-term plans and should be realistic in achieving the policies that the SMP sets out. The action plan should be affordable, setting out the sources of funding for achieving the plan.

The action plan should form the basis for any future changes in regional and local coastal policies and how this will be achieved. It should:

- confirm the methods you have used to make sure the plan contributes to regional spatial strategies and local development plans; and
- make it clear how stakeholders can get involved in this process and contact the various partner authorities that have adopted the SMP findings.

If necessary, action plans should go further than individual SMPs to link with recommendations in neighbouring SMP areas. You should include a process for reviewing the SMP regularly. We expect that individual operating authorities will develop or update strategies covering those policy units within their area of responsibility where significant work or management activities are needed before the next plan review. These strategies provide a detailed assessment for policy units (see our FCDPAG2 guidance) and will involve a more thorough examination of all the options, including economic analysis in line with our FCDPAG3 guidance and future updates (www.defra.gov.uk/environ/fcd/pubs/pagn/fcdpag3/default.htm).

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Welsh Office 1998, 'Technical Advice Note (TAN) 14: Coastal Planning', The Stationery Office

Welsh Assembly Government 2002, 'Planning Policy Wales'

Welsh Assembly Government 2004, 'Technical Advice Note (TAN) 15: Development and Flood Risk'

Other guidance available

The following guides on assessing flood and coastal defence in England and Wales are available.

FCDPAG1	Overview (published March 2001)
FCDPAG2	Strategic planning and appraisal (published March 2001)
FCDPAG3	Economic appraisal (published December 1999) (updates at http://defraweb/environ/fcd/pubs/pagn/fcdpag3/default.htm)
FCDPAG4	Approaches to risk (published March 2000)
FCDPAG5	Environmental appraisal (published March 2000)
FCDPAG6	Post project evaluation (to be published)

These guides are regularly updated, and these and any updates are available from our website at www.defra.gov.uk/environ/fcd/pubs/pagn/default.htm.

Glossary

Accretion

In geography, accretion means the land increasing due to sediment being added to it.

Asset

This refers to something of value and may be environmental, economical, social, recreational and so on

Beach recharge

This is the management practice of adding to the natural amount of sediment (such as sand) on a beach by using material from elsewhere. This is also known as beach replenishment, nourishment or feeding.

Beach recharge material

Natural sediment sourced from elsewhere used to replenish the beach.

Behavioural systems approach

This is a method of looking at how a coast is changing and is likely to change in the future by assessing all the factors that affect its behaviour at a range of scales, both in terms of time and distance. This approach was adopted for the Futurecoast project (see the definition below). www.defra.gov.uk/environ/fcd/Futurecoast.htm

Biodiversity

The richness and variety of wildlife (both plant and animal) and habitats on earth.

Biodiversity action plans

National action plans for an important habitat or species, approved by the Government, as part of the overall UK biodiversity action plan. (See the reference for the UK Biodiversity Group, 1995 and 1999.) Each action plan provides a description of the species or habitat and any threats to it. It sets targets for recovery and lists the actions needed to meet these targets.

Biodiversity objective

An aim for maintaining and improving biodiversity within a habitat.

Biodiversity target

This target was approved by the World Summit on Sustainable Development.

"To achieve, by 2010, a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to easing poverty and to benefit all life on earth."

Catchment flood management plan

A large-scale planning framework for managing flood risk to people and the developed and natural environment. See guidance published in July 2004 (www.environment-agency.gov.uk/commondata/105385/cfmp_policy_891477.pdf) and our website (www.defra.gov.uk/environ/fcd/policy/strategy.htm) for further details.

Client steering group (CSG)

A group formed to review a shoreline management plan.

Coastal defence

A term used to cover both coastal protection against erosion and sea defence against flooding.

Coastal defence strategy plan

A detailed assessment of the coastal defence options for a policy unit, based on our guidance: FCDPAG2.

Coastal habitat management plan (CHaMP)

A management plan that identifies the flood and coastal defence work that is likely to be needed in a given area to conserve a European site (or group of sites), particularly where the current defence line may not be able to be maintained over the long term. A guidance note was produced in 2000 by English Nature and others (see the references list for details).

Coastal process units

These were defined by previous SMPs as a length of shoreline in which the physical processes are relatively independent from the processes in neighbouring coastal process units.

Coastal processes

The set of processes that operate along a coastline.

Coastal squeeze

The process by which coastal habitats and natural features are progressively lost or drowned, caught between coastal defences and rising sea levels.

Coastal zone management plan

Plans through which local authorities and others put planning objectives and policies into practice for an area of the coast, which deal with a range of issues such as managing, developing, recreating and conserving landscapes.

Consequence

An outcome or a result, such as an economic, social or environmental effect. It may be expressed as a quantity (such as monetary value), a category (high, medium or low) or a description (see our guidance: FCDPAG4).

Earth heritage

A term which describes landscapes identified as important for their fossils, minerals or other geological interest.

Economic assessment

An assessment which takes account of a wide range of costs and benefits, generally those that can be valued in money terms.

Environment

This term covers landscape and natural beauty, wildlife, habitats, and buildings, sites and objects of archaeological, architectural or historical interest.

Epoch

This refers to a period of time. In the SMPs three epochs are defined – 0 to 20, 20 to 50 and 50 to 100 years from the present.

Erosion

The loss of land due to the effects of waves and, in the case of coastal cliffs, slope processes (such as high groundwater levels). This may include cliff instability, where coastal processes result in landslides or rock falls.

European site

Any site that has been officially named ('designated') as a site of international nature conservation importance, either as a special protection area (SPA), a special area of conservation (SAC) or a Ramsar (see the glossary) site. When considering planning, it is government policy to treat possible SPAs, candidate SACs and listed Ramsar sites as if they were already designated.

Futurecoast

A study we asked for to provide consistent information on coastal processes and possible future development of the coast, for the whole of England and Wales (www.defra.gov.uk/environ/fcd/Futurecoast.htm).

Geomorphology

The study of landforms on the earth's surface and processes of forming land.

Habitat Directive

EC Directive 92/43 on conserving natural habitats, wildlife and plant life.

Habitat Regulations

The Conservation (Natural Habitats & c.) Regulations 1994. This makes the Habitats Directive UK law.

Hazard

A situation with the potential to result in harm. A hazard does not necessarily lead to harm.

Heritage Coast

Heritage Coast is a national definition to cover the most unspoilt areas of undeveloped coastline around England and Wales.

High-level targets (HLTs)

HLTs have been developed with colleagues in the Environment Agency, Association of Drainage Authorities and the Local Government Association as well as with the wider Flood Management Stakeholder Forum (see www.defra.gov.uk/environ/fcd/policy/forum.htm for details of its membership). They are not legal requirements but are important for delivering government policy so we expect all operating authorities to put them into practice. Further details on the targets are on our website at www.defra.gov.uk/environ/fcd/hltarget/default.htm.

Historic environment

Previous environmental conditions over a range of timescales.

Integrated coastal zone management (ICZM)

A strategy to identify lasting levels of economic and social activity in our coastal areas while protecting the coastal environment. It brings together all those involved in developing, managing and using the coast within a framework that makes it easier to join their interests and responsibilities together. Also see our website at http://defraweb/environment/water/marine/uk/iczm/index.htm.

Intertidal areas

The area between mean high water level and mean low water level in a coastal region.

Inundation

An overflow of water or an expanse of water submerging land.

Landscape character assessment

A way of identifying and explaining different things (such as woodlands, hedgerows, moors, mountains and farmland, building styles and historic artefacts) which give a place its unique character.

Management units

These were defined by previous SMPs as a length of shoreline with similar characteristics in terms of coastal processes and assets at risk that can be managed effectively. They have now been replaced by policy units.

Natural areas

This covers both the small number of natural areas and the much greater semi-natural areas of Britain, which have been influenced by people's actions over the years.

Nature conservation – designations

Below is a list of statutory and non-statutory (see the glossary) nature conservation designations (areas identified as special sites for their wildlife and habitats).

Sites of special scientific interest (SSSIs) designated for their wildlife and earth heritage (see the definition above) interest under the Wildlife and Countryside Act 1981.

National nature reserves designated under the Wildlife and Countryside Act 1981.

Areas of special protection, formerly bird sanctuaries, designated under the Wildlife and Countryside Act 1981.

Wetlands of international importance (Ramsar sites) designated under the 1971 Ramsar Convention.

Special areas of conservation (SACs) designated under the EC Habitats Directive (92/43/EEC Conservation of Natural Habitats and of Wild Fauna and Flora).

Special protection areas (SPAs) designated under the EC Birds Directive (79/409/EEC Conservation of Wild Birds).

Local nature reserves (LNRs) designated by local authorities under section 21 of the National Parks and Access to the Countryside Act 1949.

Non-statutory nature conservation sites, such as regionally important geological or geomorphological sites (RIGSs) or sites of interest for nature conservation (SINCs) and land held for conservation purposes by other organisations (such as The National Trust).

Natural Processes

Those processes over which people have no significant control (such as wind and waves).

Net 'along shore' movement

The difference in the yearly total movement of sand and shingle in each direction along the shore.

Non-statutory conservation

Local-authority conservation plans aimed to protect a local environmental resource.

Operating authority

An organisation with legal powers to carry out flood defence or coast protection activities, usually the Environment Agency or maritime district council.

Planning policy guidance (PPG)

Issued by the Government to set out its national land use policies for England on different areas of planning. These are gradually being replaced by planning policy statements (PPS).

Policy unit

A length of shoreline with similar characteristics in terms of coastal processes and assets at risk that can be managed efficiently.

Preferred policy

The policy that best meets the objectives set out in Box E.

Public service agreement

The public service agreement (PSA) framework is a Government objective to drive forward the highest priorities and ambitions for delivery within the context of public services.

Ramsar

The conservation on wetlands, signed in Ramsar, Iran, in 1971 is a treaty between governments which provides the framework for national action and international co-operation for protecting wetlands and their resources.

Residual life

The time until when a defence is no longer able to achieve minimum 'acceptable performance'.

Residual risk

The risk which remains after managing and reducing risks. It may include, for example, risk due to very severe storms or risks from unexpected hazards.

Risk assessment

Considering risks to people and the developed, historic and natural environment.

Risk management

Managing and monitoring risks

(www.environment-agency.gov.uk/commondata/103599/4iarbmpes 777869.doc).

River basin management plans

The plans which must be developed to put the EU Water Framework Directive into force.

Schedule IV

Part of the Coast Protection Act 1949 which says waters excluded for purposes of definitions of 'sea' and 'seashore', that is the upstream limit in estuaries and rivers.

Scheduled monuments

The main legislation concerning archaeology in the UK is the Ancient Monuments and Archaeological Areas Act 1979. This Act, building on legislation dating back to 1882, provides for nationally important archaeological sites to be protected as scheduled ancient monuments.

Sediment cell

A length of coastline and its associated nearshore area within which the movement of coarse sediment (sand and shingle) is largely self-contained. Interruptions to the movement of sand and shingle within one cell should not affect beaches in a neighbouring sediment cell. A report was produced in 1994 defining sediment cells around the coast of England and Wales (author: HR Wallingford 1994).

Sediment sub-cell

A smaller part of a sediment cell within which the movement of coarse sediment (sand and shingle) is relatively self-contained.

Sediment supply

Adding sediment to a beach.

Shoreline management policy

A general term for any management option.

Shoreline response

The way the boundary between the land and the sea changes due to varying coastal process and people's actions.

Significant effect

An important effect – for example, if a plan or project is likely to affect a European site, you need to decide whether or not it would have a 'significant effect'. If there is any doubt, you must consult Natural England or Countryside Council for Wales. They will advise whether, in their view, the proposed scheme would be likely to have a significant effect on the habitat interests of the site.

Spatial planning

Spatial planning refers to the methods used to balance demands for development with the need to protect the environment, and to achieve social and economic objectives.

Stakeholder

A person or organisation with an interest or concern in something. A list of possible stakeholders for the SMP is included on page 44.

Statutory conservation

A legal duty to protect and manage an area of national importance in terms of environmental value.

Strategic

This describes carrying out any process in a wide-ranging way, taking account of all associated effects, interests of other people and the widest possible options for solving a problem. In this document, the word 'strategic' does not mean any particular level in the planning process.

Strategic environmental assessment (SEA)

A process of assessing the environmental opportunities and restrictions of a project, and identifying and managing its implications. An SEA is a legal requirement of certain plans and programmes, under the Environmental Assessment of Plans and Programmes Regulations 2004.

Sustainable development principles

Standards set by the UK Government, the Scottish Executive and the Welsh Assembly Government for a policy to be sustainable. See our website at www/defra.gov.uk/environment/sustainable/index.htm.

Sustainable management

The process of developing (land, cities, business, communities and so on) that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable policies

Sustainable policies lead to coastal defence solutions that avoid committing future generations to inflexible and expensive options for defence. They will usually include considering relationships with other defences and likely developments and processes within a coastal cell or sub-cell.

Technical advice notes (TANs)

Current land use planning policy in Wales is contained in Planning Policy Wales (Welsh Assembly Government, 2002) which provides the strategic policy framework for the effective preparation of local planning authorities' development plans. These are supported by 20 topic-based technical advice notes (TANs).

Transparent and auditable

This means the process is open so that people can see what the process involves and understand why a decision has been made.

Water Framework Directive

This Directive is European Union legislation which covers all inland and coastal waters. The Directive sets a framework which should provide substantial benefits for managing water over the long term. Further details are on our website at www.defra.gov.uk/environment/water/wfd.

Stakeholders and people you can consult

The level of consultation you carry out will depend on the range of interested people you identify and their level of involvement in the area. Those who are most likely to have an interest in the different aspects of the area are listed below. This list is not full, and you should consult local interest groups where they exist. We recommend that you involve all interested people and groups at all stages when developing an SMP. We give more detail in volume 2, appendix A.

Planning

Planning authorities, organisations involved in development plans or coastal zone management plans (such as regional government)

Flood management

Defra Flood Management Division, Welsh Assembly Government (WAG), the Environment Agency, local authorities and internal drainage boards (IDBs) where appropriate

Marine environment

Defra Marine Environment Division, Welsh Assembly Government (WAG), Natural England and Countryside Council for Wales (CCW)

Ports, harbours and navigation

Port and harbour authorities and the Office of the Deputy Prime Minister (ODPM)

Agriculture

Natural England, National Farmers' Union (NFU), Farmers' Union of Wales (FUW), Tenant Farmers' Association and Country Land and Business Association (CLA)

Landowners

Country Land and Business Association (CLA). Where appropriate, Crown Estate Commissioners, the National Trust, the Royal Society for the Protection of Birds (RSPB), county wildlife trusts, the Forestry Commission, local councils and the Ministry of Defence

Fisheries

Sea fisheries committees (where fisheries interests may be affected and where sand and gravel is removed from offshore)

Business

Confederation of British Industry, chambers of commerce and the Association of British Insurers

Nature conservation

Natural England, Countryside Council for Wales (CCW), Worldwide Fund for Nature (WWF), county wildlife trusts, Marine Conservation Society, the Royal Society for the Protection of Birds (RSPB), Joint Nature Conservation Committee, local nature conservation organisations, regionally important geological or geomorphological site (RIGS) groups and the Forestry Commission

Landscape

Natural England, Countryside Council for Wales (CCW), Heritage Coast Forum, Council for the Protection of Rural England (CPRE), Campaign for the Protection of Rural Wales (CPRW) and the Forestry Commission

Archaeological and historical sites or features

English Heritage, Cadw, and county, district and local authorities' archaeological and conservation officers

Recreation and access

Natural England, Countryside Council for Wales (CCW), water companies, the Forestry Commission, town and parish councils, British Association for Shooting and Conservation (BASC), Ramblers' Association, Royal Yachting Association and other sporting associations

Local interests

The general public and local groups

Annex A: Existing SMPs on the English and Welsh coastline

SMP number	Location	Lead authority
1a	St Abb's Head to the River Tyne	Wansbeck District Council
1b	River Tyne to Seaham Harbour	Sunderland City Council
1c	Seaham Harbour to Saltburn	Hartlepool Borough Council
1d	Saltburn to Flamborough Head	Scarborough Borough Council
2a and 2b	Flamborough Head to Donna Nook	East Riding of Yorkshire Council
2c	Donna Nook to Gibraltar Point	Environment Agency
2d	Gibraltar Point to Snettisham	Environment Agency
3a	Snettisham to Sheringham	Environment Agency
3b	Sheringham to Lowestoft	North Norfolk District Council
3c	Lowestoft to Harwich	Suffolk Coastal District Council
3d	Harwich to Canvey Island	Tendring District Council
4a and 4b	Canvey Island to South Foreland	Canterbury City Council
4c	South Foreland to Beachy Head	Shepway District Council
4d	Beachy Head to Selsey Bill	Arun District Council
5a and 5b (part)	Selsey Bill to River Hamble	Chichester Council
5b (part) and 5c	River Hamble to Hurst Spit	New Forest District Council
5d and 5e	Isle of Wight	Isle of Wight Council
5f	Hurst Spit to Durlston Head	Bournemouth Borough Council
5g	Durlston Head to Portland Bill	West Dorset District Council
6a, 6b and 6c	Portland Bill to Rame Head	West Dorset District Council
6d	Rame Head to Lizard Point	Caradon District Council
6e	Lizard Point to Land's End	Penwith District Council
	Isles of Scilly	Isles of Scilly (IOS)
7a and 7b	Land's End to Hartland Point	Caradon District Council
7c and 7d	Hartland Point to Brean Down	West Somerset District Council
7e and 8a	Brean Down to Lavernock Point	North Somerset District Council
8b	Lavernock Point to Worm's Head	City and County of Swansea
8c	Worm's Head to St Govan's Head	Carmarthenshire County Council
8d (part)	St Govan's Head to St Ann's Head	Pembrokeshire County Council

SMP number	Location	Lead authority
8d (part) and 9a (part)	St Ann's Head to Teifi Estuary	Pembrokeshire County Council
9a (part)	Teifi Estuary to Dyfi Estuary	Ceredigion County Council
9a (part) and 9b	Dyfi Estuary to Bardsey Sound	Gwynedd County Council
10a, 10b and 10c	Bardsey South to Great Orme's Head	Conwy County Borough Council
11a	Great Orme's Head to Formby Point	Wirral Metropolitan Borough Council
11b	Formby Point to Rossall Point	Blackpool Council
11c	Rossall Point to Earnse Point, Walney Island	Lancaster City Council
11d	Earnse Point, Walney Island to St Bee's Head	Copeland Borough Council
11e	St Bee's Head to Solway Firth	Allerdale Borough Council

Note: Three 'pilot' SMPs have been prepared for SMP numbers 3b, 4c and 4d.

Annex B: Agreement letter for an SMP

To: Lead authority

Dear

Shoreline management plan: location AAAAAA to location BBBBBB

- developing an overall understanding;
- identifying and analysing problems;
- developing policy in line with current guidance; and
- making sure your SMP meets the principles of sustainable development.

However, this agreement does not commit us to approving or funding in due course any of the work or studies identified in the plan.

Please take account of the following areas of concern that are still outstanding. You will need to deal with these while putting your plan into practice.

I will make sure that the link to this plan on our website is now updated to reflect the status of this agreement. We are grateful to everyone who has contributed to developing this plan and look forward to working with you on putting it into practice.

Yours sincerely

[senior civil servant by authority of the Minister]
Defra Flood Management Division

Copies to: Major partner authorities

