# Sector Analysis: Coastal Management

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# **Coastal Management Sector Analysis**

# Summary

- 1. This Sector Analysis, last reviewed in 2001, considers the consequences of major policy initiatives by Government and its agencies; advances in our understanding of environmental impacts (in particular the condition of Sites of Special Scientific Interest (SSSIs)); and changes in English Nature's strategy, policy and priorities.
- 2. It describes the characteristics of the coastal management sector and its impact on the delivery of nature conservation in England. It sets out English Nature's objectives for the sector and our three priority actions for 2005-2008. It is intended to provide the strategic direction for what we want to achieve at the coast. The roles and responsibilities of the key shapers and players within the sector are summarised. The dominant influences in this sector remain the Department for Food and Rural Affairs (Defra), the Environment Agency (EA) and, to a lesser extent, local authorities.
- 3. The key socio-economic and political factors that shape the sector are discussed. In particular, the need to recognise the benefits that properly functioning coastal ecosystems provide for people, the economy and environmental quality, and the need to provide sustainable solutions through a strategic and integrated approach to management of the coast.
- 4. The work necessary, within this sector, to achieve the Public Service Agreement SSSI Target is now urgent. The scale of action required to tackle this issue needs to be recognised and suitable mechanisms will need to be fully in place to achieve delivery by 2010. There is a significant risk that, once the necessary mechanisms are clarified, the lead in time for the action required is too great to achieve SSSI favourable condition for sites affected by coastal squeeze in time.
- 5. Climate change is having a broad range of consequences in this sector. One element of addressing these is for English Nature to refine its approach to the 'migration' of freshwater habitats on the coast as a result of sea level rise and coastal realignment. Another is the need to champion the reality of evolving coastal ecosystems and substantive changes in the mosaic of habitats and species that they support.
- 6. The priority actions for this sector are:
  - To communicate our own position on coastal management, as set out in the new maritime strategy *Our coasts and seas;*
  - Champion urgent action, on coastal squeeze and inappropriate coastal management, in order to achieve favourable condition in coastal SSSIs and the Government's SSSI PSA target;
  - Contribute to a range of strategic initiatives and measures, such as the development of new shoreline management plans, re-creation of freshwater habitats in sustainable locations and Defra policy reform in order to advance the coastal management agenda.

# 1. Characteristics and scope of the sector

- 1.1.1 The focus of this sector analysis is the interaction between nature conservation and the physical management of England's shoreline to reduce flood and coastal erosion risks. These interactions can, when delivered effectively provide major environmental benefits; equally they can also cause major damage to nature conservation interests. The analysis does not cover other coastal management issues nor set out English Nature's position on the wider issues associated with integrated coastal zone management.
- 1.1.2 This analysis draws upon a wide variety of sources and evidence; these include:
  - English Nature's new (March 2005) maritime strategy <u>Our coasts and seas</u> <u>making space for people, industry and wildlife;</u>
  - The Government's draft strategy for flood and coastal erosion risk management *Making Space for Water* (July 2004);
  - The Government's response (March 2005) to a public consultation exercise on that document *Making Space for Water Taking forward a new Government Strategy for flood and coastal erosion risk management in England;*
  - The Office of Science and Technology's 2004 *Foresight* report on flood and coastal defence;
  - English Nature's experience with the first generation of Shoreline Management Plans;
  - The experience of our area and national support teams in contributing to the development of coastal defence strategies and individual schemes;
  - Parliamentary questions and answers and a number of short debates on flood and coastal erosion risk management issues;
  - The report of the 1998 Agriculture Select Committee inquiry into flood and coastal defence and English Nature's evidence to that inquiry;
  - Our experiences in promoting a sustainable approach to coastal management following the launch of our *'Campaign for a Living Coast'* in 1992.

This sector analysis seeks to provide a stand-alone review of the relationship between flood and coastal erosion risk management activity and nature conservation. While it can be read on its own a number of hyperlinks have been provided, in the text, to enable readers, viewing the analysis over the web, to easily access additional sources of information from a variety of websites. It is hoped that this will assist with the consideration of associated issues.

- 1.2 The there are two types of coastal risk management in England:
  - **coastal flood risk management** is reducing the threat from flooding by the sea of low-lying land at the coast and land adjacent to river estuaries as far as their tidal limit. It is normally the responsibility of the Environment Agency;

- **coastal erosion risk management**, the management of coastal land subject to erosion by the sea, this is currently normally the responsibility of local authorities (District Councils or Unitary Authorities).
- 1.3 The Flood Management Division of the Department for Environment Food and Rural Affairs (Defra) oversees this work area and provides grant aid for most capital works from central Government funds. Coastal risk management is therefore largely a public sector operation, although individual frontage holders can undertake works subject to authorisation from an operating authority. Some corporate 'frontagers' such as Railtrack have substantial lengths of defences under their management. Overall a substantive amount of the coast is constrained by coastal defences for example of the 3,760km of 'cliffed' coast in England more than 1018km are constrained by coast protection works.
- 1.4 This sector is relatively self-contained, although there is considerable overlap with flood risk management activity on inland rivers and wetlands. The Government's budget for flood and coastal erosion risk management is currently (2005-06) £564million per annum, following the flood events in 1998 and 2000 the majority of this is currently targeted at fluvial flooding. There are also strong links to coastal land-use planning as development often drives the demand for defensive measures, and the existence of coastal development constrains shoreline management options.
- 1.5 The coastal environment is dynamic; the degree of dynamism varies enormously around the country but is nearly always apparent. As an extreme example areas in Suffolk have experienced long-term erosion rates exceeding 6m per year over a 100-year period. These rates of change are set to increase as the environment responds to climate change; at the coast the most obvious influence is rising sea-levels and there is now evidence of a general increase in the rate of sea level rise. Effective coastal management decision making at the coast, therefore, requires a clear understanding of the physical processes controlling coastal systems and necessitates the need for a long-term perspective.

#### Sea Level Rise

Sea levels are rising – this is a combination of both global warming leading to melting of the icecaps and glaciers, thermal expansion of the oceans and in southern England isostatic change as the land mass sinks (this is a consequence of the last glaciation). More information on this issue, in relation to coastal management is available in the 2004 *Foresight* report on flood and coastal defence and from the <u>UK climate impacts programme</u> website.

1.6 English Nature is involved statutorily in flood and coast erosion risk management at both national and local levels on estuary and coastal issues. Nationally, we liaise regularly over policy and strategy with Defra and the EA, and provide an input on environmental issues to Shoreline Management Plans (SMPs) and coastal defence strategies. In addition, operating authorities consult English Nature's area teams on all flood and coastal erosion risk management capital works to ascertain their *environmental acceptability*. English Nature is also consulted by the marine environment consents unit under the 1949 Coast Protection Act and the Food and

Environmental Protection Act licences when coastal management measures are constructed below high water mark.

- 1.7 In the early 1990's there was a growing awareness and recognition of the problems for nature conservation caused by past coast defence works and riparian drainage policies. These were highlighted in English Nature's own *Campaign for a Living Coast* in 1992. Many of the issues highlighted in that campaign started to be addressed following the publication of Defra's (then MAFF's) 1993 *Strategy for Flood and Coastal Defence*. It was this strategy that created a requirement (mentioned in 1.6) for any new works to be environmentally acceptable.
- 1.8 Widespread fluvial flooding at Easter 1998, autumn 2000 and more recently in January 2005 have greatly increased the public's awareness of the impact that flooding can have on people and property. This has served to raise flood risk management up the political agenda and resulted in doubling of the Government's financial support for flood risk management works between 1998/99 and 2005/06 to £564million per year. A comparable situation arose at the coast after the tidal surge storm event in the North Sea in 1953. At present there are more than 2million properties at risk of flooding in England and Wales (this includes both coastal and fluvial flooding). The recent *Foresight* report has highlighted the risks to the nation, from flooding and coastal erosion, and how these are likely to increase as a consequence of climate change.
- 1.9 The Government has recently (2004/05) developed a new strategy for a holistic approach to flood and coastal erosion risk management *Making Space for Water*. This marks a further substantive step forward in the way we address flood and coastal erosion risk management issues; it also represents a clear and decisive shift away from the old approach of 'flood and coastal defence'; that normally limited thinking to engineered rather than a wider suite of management solutions. The new strategy also addresses issues of community involvement in flood and coastal risk management decisions and highlights the need to raise public awareness of risk.
- 1.10 However, while the direct impact on nature conservation of new flood and coastal erosion management activity is now limited there are still a number of impacts that stem from poor approaches adopted in the past or indirect impacts that result because coastal systems are dynamic. The most notable of these is 'coastal squeeze' the process by which intertidal habitats become trapped between fixed seawalls and rising sea levels. This has resulted in a substantive area of SSSI land currently being in unfavourable condition because of the scale of saltmarsh loss.
- 1.11 Conversely, it is now widely recognised that coastal habitats and natural features have a vital role in the sustainable management of coastal defences. Dunes, shingle ridges, saltmarshes and mudflats all act as natural energy absorbing barriers, whilst eroding soft cliffs provide fresh material to maintain beach levels. Therefore, the sector is potentially a powerful ally in the cause of coastal conservation.
- 1.11.1 Coastal ecosystems will also evolve as a result of climate change. English Nature has already recognized that this will lead to changes in the mosaic of habitats and species that are found at the coast; including in the coastal floodplain. Some coastal wetlands

owe their existence to the presence of flood defences, where these sites can't be sustainably conserved *in situ* and have Natura 2000 status there are already mechanisms in place to offset the changes that occur by providing compensatory habitat; this is discussed in section 4.

1.12 The impact of the sector on nature conservation is not evenly distributed around the country. The scale of coastal risk management works, and therefore the scale of both historic losses and potential benefits, is greatest on the soft and low-lying coasts in the south and east of England (roughly between the Humber and Dorset), where relative sea level rise is also greater generally. However, the sector can also be important in other areas such as Cornwall, where in recent years, there have been a series of small but controversial coastal erosion risk management of the coastal flood defences fringing the Severn Estuary is also an issue, and even on the generally accreting coasts of northwest England, there are areas of localised erosion, which fuel demand for local coastal risk management works.

# 2. Key shapers and players

#### 2.1 **Shapers - defining the rules of the game**

- 2.1.1 Defra's <u>Flood Management Division</u> is responsible for flood and coastal erosion risk management policy, grant aid for capital works and strategic research. English Nature has regular dealings with DEFRA staff at HQ level and the regional engineers. The Division is currently subject to a review (Spring 2005) of its structure that seeks to distinguish between its policy and delivery functions.
- 2.1.2 Defra's <u>European Wildlife Division</u> is also of importance because of the complexities of applying the Habitats Regulations to coastal risk management works in international sites.
- 2.1.3 The <u>Environment Agency</u> (EA) has operational responsibility for coastal flood risk management. The EA has a complex structure that includes a series of Flood Defence Committees with executive powers. EA officers at national, regional and area levels, and members of the Regional Flood Defence Committees all have an input to coastal risk management. The EA, also leads in taking forward the Government's commitment to implement the Water Framework Directive (WFD).
- 2.1.4 District Councils and Unitary Authorities (operating authorities) that have a coastline have operational responsibility for coast protection and coastal land-use planning within their areas.
- 2.1.5 The <u>Office of the Deputy Prime Minister</u> is responsible for the development of planning policy for the coast and flood plains;
- 2.1.6 The <u>marine consents environment unit</u>, responsible to Defra, also has an input to this sector. They are responsible for issuing a variety of licences required for engineering projects below high water mark.
- 2.1.7 The insurance industry has played an increasingly influential role since the fluvial flooding events in 1998 and 2000. Seeking to influence the amount of Government investment in flood risk management measures.
- 2.1.8 Treasury, as the ultimate arbiter of the amount of Government investment in flood and coastal erosion risk management measures.

#### 2.2 Key players - seeking to influence the rules of the game

- 2.2.1 Coastal land and property owners whose land is at risk from flooding or erosion. This category covers individuals, coastal industries such as Railtrack, chemical, oil and gas companies, ports, and the leisure industry, and also conservation bodies with coastal reserves/property.
- 2.2.2 Other key players are:

- members of Flood Defence Committees;
- members of local authority coast protection and planning committees;
- coastal groups (non-statutory groupings of local authority and EA staff based on coastal cells, responsible for the preparation and revision of SMPs, research to provide necessary information);
- engineering and environmental consultants (preparation of SMPs, option selection, scheme design, environmental appraisal and construction);
- local communities;
- community pressure groups established to lobby on site or area specific coastal management issues;
- owners of private defences;
- landowners' organisations (National Farmers Union / <u>Country Land and</u> <u>Business Association</u>);
- MPs (lobbying on individual cases, legislative change);
- coastal constituency MPs;
- non-governmental organisations, primarily the Royal Society for the Protection of Birds (RSPB), the Wildlife Trusts (WTs), the World Wide Fund for Nature (WWF) and the National Trust (NT); of these the National Trust is of particular note because of their extensive coastal land holding;
- academics with an interest in coastal issues.
- 2.2.3 The development of regional government is of increasing importance in this sector. In particular regional spatial strategies (RSS) will have an important role to play. Defra (March 2005) have indicated that RSSs need to be informed by strategic flood risk assessments and take account of shoreline management plans. However, due to both different regional structures (EA's regions are based on catchments), coastal cells that cross regional boundaries and the delivery of much coastal work through EA area (rather than regional) offices or local authorities the role of regional governance is so far comparatively limited in this sector. This is likely to change in the future with, for example, the advent of River Basin Management Plans under the WFD, which will also inform the RSSs and encompass 'coastal and transitional waters' up to one mile offshore.

### 3. Socio-economic, political and technical factors

3.1 In order to sustain a healthy and diverse mix of coastal habitats, species and natural features our coastline needs to be allowed to function as freely as possible. The rationale for our approach to coastal conservation is explained in more detail in English Nature's new (March 2005) maritime strategy – *Our Coasts and Seas*. Many coastal habitats are dependent on the free functioning of wind, waves and tides to sustain their conservation interest. In contrast constraining this functionality can be expensive, can disrupt sediment transport pathways and potentially create an expensive commitment to what ultimately may be unsustainable hard 'defensive' measures. There are also a substantial number of brackish and freshwater wetland

habitats at the coast that owe their existence to flood management works such as grazing marshes behind seawalls. It is not going top be possible to conserve all such habitats in situ in the long term.

- 3.2 The coast is an important national asset, as well as supporting an amazingly diverse mix of wildlife and geodiversity it provides a variety of characteristic landscapes. It is a great resource for informal recreation in a wide variety of forms and a significant proportion of the population live and works at or close to the coast. Ensuring we have a healthy coast for people to enjoy is of prime importance to English Nature and is already central to the strategic approach being developed for Natural England.
- 3.3 The effects of climate change are now apparent. Increases in sea level are a reality and there is evidence to suggest increases in both storm events and average wave heights. This, coupled with the movement of sediment along the coast, creates a pattern of erosion and accretion around much of our coast; which in turn creates a demand for management intervention.
- 3.4 Over the next 100 years it is now apparent that the way coastal systems function may also alter significantly, creating major changes in sediment pathways, increased rates of erosion and the accelerated 'roll-back' of barrier beaches. While flood and coastal erosion risk management may be able to address some of these challenges in other areas there is a need to anticipate and plan for the *breakdown* of existing coastal systems. Unless society achieves a more sustainable approach to coastal management these changes will fuel increasing demands for more and 'better' coastal risk management measures, which will be increasingly difficult to sustain and increasingly expensive. Such an approach is not in tune with developing the greater social and economic well being of society, and in addition to the increased cost 'bigger and better' hard engineered defences result in severer consequences if they fail during a major event.
- 3.5 In the past, flood and coastal erosion risk management works caused massive changes to coastal habitats and natural features. As an example this resulted in losses of intertidal habitats but increases in coastal grazing marshes. In some areas, such as southeast England, much of the coast is now constrained by man-made defences and associated development that limits the operation of coastal processes. While these defences are in many places justified it is now apparent that in some areas (where there are few people) the cost of maintaining existing defences is greater than the monetary value of the land they protect. Defra have concluded that in such cases it is not in the public interest to provide further funding and responsibility for these defences should be returned to the landowner by the EA withdrawing from the maintenance of uneconomic sea defences. This is covered in a recent (2004) Defra policy statement on <u>uneconomic seawalls</u>.
- 3.6 We believe this will result in more private management of flood defences and that there is a need for the improved regulation of such defences. Damaging practices by private owners of sea defences have gone unchallenged in the past. We are concerned that sea defences built or maintained by the private sector may contradict the local SMP and interfere with neighbouring defences by interrupting sediment movements. They can also use unsuitable materials to maintain or strengthen their sea defences

and so be damaging to nature conservation interests. Sea defence works are generally expensive, and we are aware of cases where landowners have allowed contractors to dump inert waste that is then incorporated into the defences. These may not be well built, and may eventually lead to material leakage or spills into the environment. Mechanisms (such as planning permission) for controlling actions of private defence owners exist but are rarely applied effectively.

- 3.7 A policy of allowing sea defence failure may also have an impact on public access to the coast. In many places coastal rights of way follow the seawall; if the seawall fails following the withdrawal of public funding then the footpath will be lost. If the defences are subject to managed realignment then this work can include re-routing the footpath to the 'new' shoreline or a new counter wall; this was the approach adopted by English Nature and Defra with the managed realignment experiment at Tollesbury in Essex. Such an approach is likely to be more attractive to and gain the support of local communities, in contrast to a policy of 'abandonment'. This 'managed' approach has already been embraced in our joint work with Countryside Agency and Rural Development Service to take forward the rural manifesto commitments on coastal access. Our work in this area is also addressing the provision of coastal access on eroding shorelines. It is now envisaged that coastal access will be a flagship project for Natural England.
- 3.8 Balancing this variety of interests and needs shows the importance of a strategic, structured and realistic approach to planning sustainable coastal management. The adoption of the *Shoreline Management Plan (SMP)* approach from the mid 1990's has helped and the second generation of SMPs looks set to take a more realistic approach to how the coast should be managed. Defra has produced revised guidance for SMPs which seeks to learn lessons from first generation plans and ensure continued development of the process; one such positive step is the requirement for new SMPs to take a longer term, 100-year, forward look.
- 3.9 There is a need to improve the links between the SMP process and wider land use planning so as to avoid any further development (e.g. housing and roads) in inappropriate locations, enable the migration of communities from unsustainable locations and address the legacy of pass development in areas that cannot be defended. With respect to floodplains the introduction of ODPM's <u>PPG 25 –</u> <u>Development and flood risk</u> has helped and the Government (March 2005) has now committed to replace this with a new Planning Policy Statement. There will be a public consultation on this in 2005.
- 3.10 An important commitment by Government, through its response to the Making Space for Water consultation, is the introduction of erosion risk mapping by 2008 (to parallel the recent introduction of flood risk maps). This will greatly assist the development of better planning policies and planning decisions on coastlines subject to erosion. The Government is committed to reviewing current legislative and institutional arrangements for the coast. As a result it has currently (March 2005) decided against an immediate revision of <u>PPG20 Coastal Planning</u> until that review is complete. There is clearly a need for further planning guidance in this area given both the importance that should be attached to shoreline management plans and the new commitment to erosion risk mapping and the associated need for guidance on

how this should be taken in to account by local authorities.

- 3.11 A large number of individual property owners, commercial organisations and public bodies have assets whose continued existence depends on coastal risk management works, funded largely by the taxpayer. In many instances sustaining such defences, to reduce risk to people and property, will be justified. However, the concept of accepting erosion through a policy of 'no intervention' or restoring a dynamic, changing coastline through other forms of intervention such as management realignment, continues to face major opposition and negative reactions from those who would prefer to maintain the status quo or are concerned that their own property will be devalued, become uninsurable or even lost. This often reflects a lack of understanding of the technical factors and the economic realities that need to underpin long-term sustainable coastal management decisions.
- 3.12 The recent restructuring of Flood Defence Committees is welcomed and should help ensure a more accountable approach to all interests in their respective regions, enabling them to take decisions consistent with the wider strategic approach now being taken in the planning of flood and coastal erosion risk management.
- 3.13 There is still a great deal of misunderstanding about the realities of coastal change. Many local communities do not fully appreciate the reality or the scale of potential changes to the coast over the next 100years; including the technical difficulties associated with trying to maintain the status quo and the full economic cost of effective coastal management measures. This has created an upsurge in local community pressure groups that are seeking either the provision of traditional 'hard' coastal defences or asking the Government for compensation to address their own imminent loss of property.
- 3.14 The issue of compensation is complex and was the subject of a great deal of debate during the Government's consultation on *Making Space for Water*. The Government has effectively ruled out the payment of direct compensation as a result of ongoing erosion or a change in shoreline management option. However, has now provided a clear commitment to investigate options for a wider suite of coastal erosion risk management tools over the next two years. English Nature has been asked to contribute to this work and in doing so will strongly advocate the need for an enhanced 'toolkit'. It is English Nature's view that there is a strong case for such alternative approaches, as an example we believe there may be cases where an engineered coastal management scheme is justified because of a positive cost benefit ratio but alternative options such as relocation of the assets at risk may be cheaper than defending them *in situ*. We are committed to supporting and assisting Defra in the development of suitable and justifiable alternatives.
- 3.15 We are therefore pleased that Government is committed to reviewing the current legislative and institutional arrangements including considering amending the 1949 Coast Protection Act. We believe that such a review would go a long way towards completing the shift from a culture of defence to one of risk management.
- 3.16 The loss of natural habitats at the coast has now reached the point where the need to provide space for the coast to adjust to a more sustainable alignment has become an

economic as well as a conservation issue. For example, the EA has stated that with an 80-metre width of saltmarsh fronting an eroding coast, coast defence costs would be  $c \pm 400$  per metre. Without the buffering effects of this habitat, the costs would rise to  $\pm 5000$  per metre. Economic pressures for cheaper and more sustainable coastal risk management options seem bound to grow as the effects of climate change (sea level rise and increased storminess) continue to reinforce existing erosional trends.

- 3.17 Despite these increasing costs and past policy on managed realignment and the new policy on uneconomic seawalls, discussed in 3.5 (which will need more time to become fully effective), the rate of delivery of managed realignment schemes is still too slow to offset ongoing losses of saltmarsh (estimated at about 100ha per year in England). This has resulted in a large number of SSSIs being in unfavourable condition, this is discussed more fully in section 4. In addition it means that there is a real risk that the Government's Biodiversity Action Plan targets for saltmarsh will not be achieved.
- 3.18 The response to the Making Space of Water consultation confirms the Government's commitment to use of managed realignment as a coastal management technique. This reiterates the position adopted in a recent (November 2003) paper (<u>Managed</u> <u>Realignment: Land Purchase, Compensation and Payment for Alternative Beneficial Land Use</u>) on the types of scheme that Defra will fund. The Government is currently (May 2005) consulting on an additional paper on funding arrangements to address coastal squeeze to European sites, this will include the provision of funding for managed realignment schemes.
- 3.19 The importance Government attaches to the delivery of biodiversity targets has been reinforced by the introduction of a series of new High Level Targets for operating authorities from April 2005. One of these creates a requirement for the EA to create 100ha of saltmarsh and 100ha of other biodiversity habitats (which may also be saltmarsh) per year. Additional targets relate to work required to support the achievement of the Governments SSSI PSA Target, including producing a costed action plan of the necessary measures to address coastal squeeze by 1 April 2006. These targets are welcomed but given the slow delivery rate of managed realignment and the generally long lead in time for individual schemes achieving both the 2010 SSSI PSA Target and the 2014 Saltmarsh Biodiversity Habitat Action Plan target remain challenging.
- 3.20 There is a role for the agri-environment scheme in delivering a more sustainable coast. The current Environmental Stewardship scheme includes an option to support the re-creation of intertidal habitats. To date the take up rate for both this scheme and its predecessors has been very poor. There a number of reasons for this, these include the permanency of the changes to a landholding following realignment, the 'hope' value that the existing defence line will be maintained, the and the level of payment received. More consideration needs to be given on how to link together the Government's policy on uneconomic seawalls, discussed in 3.5, and options for Environmental Stewardship, as decisions to withdraw permissive flood defence powers become a reality.
- 3.21 The Water Framework Directive provides another important driver for sustainable coastal management. It creates a requirement for heavily modified water bodies (a

term that applies to the majority of coastal wildlife sites that are currently in unfavourable condition), to achieve 'good ecological potential' by 2015. Where these water bodies are also designated as Natura 2000 sites it is not possible for member states to achieve derogation beyond that date. The designation of such areas as Natura 2000 sites means that this 'higher' status as a 'protected area' under the Habitats Directive takes precedence over the requirements of the Water Framework Directive. However, as the requirements of the Water Framework Directive must be met by 2015 this provides a useful fallback driver. It appears likely that the works required to enable the achievement of 'good ecological potential' are likely to be mostly the responsibility of the EA.

## 4. Impacts on nature conservation

- 4.1 Direct negative impacts arising from new flood and coastal erosion risk management schemes are now limited. Since 1993 the Government has required all flood and coastal erosion risk management schemes to seek to work with coastal processes (as far as is practical) and that they should be *environmentally acceptable*. English Nature continues to provide advice on environmentally acceptability, with respect to nature conservation issues, to Defra and coastal operating authorities; where damage cannot be avoided scheme design is amended to include suitable mitigation measures.
- 4.2 However we are still faced with the legacy of the direct and indirect impacts of past coastal defence schemes. These take a number of forms, in relation to SSSIs the two most important are 'coastal squeeze' (discussed in 1.10) and 'inappropriate coastal management'. The latter of these two takes a variety of forms, effectively areas of coastal habitat (or natural features) are prevented from developing to their full extent by coastal risk management practices. In southern, western and eastern England for example, long lengths of shingle beach are prevented from developing their natural vegetation or assuming their natural form by continued disturbance from re-cycling and re-profiling.
- 4.3 Overall our condition assessments (March 2005) for SSSIs (which at the coast are often designated at a landscape scale) show that:
  - 20,062ha of SSSI are unfavourable because of coastal squeeze (5.62 % of the total SSSI series);
  - 5,102ha of SSSI are unfavourable because of inappropriate coastal management (1.43% of the total SSSI series).

Returning these SSSIs to favourable condition, in all most all cases, requires flood and coastal risk management works. The EA have been identified as the body to lead on the majority of these remedies.

- 4.4 Currently the most pressing challenge for coastal management, from a conservation perspective, is to deliver the restoration of these SSSIs to favourable condition by 2010 in order to help achieve the Government's SSSI PSA Target.
- 4.5 However, given the dynamic nature of the coast we are not just interested in solving

the immediate problems but also wish to see the adoption of coastal management practices that plan to sustain conservation interests at the coast over at least the next 100 years. The 1998 research by Newcastle University for the EA and English Nature (*The implications of future shoreline management on protected habitats in England and Wales*) looked at the likely area changes to habitats within European and Ramsar sites. It still remains the best overall assessment of the *scale* of likely coastal habitat changes over the next 50 years. The following important habitat changes were considered possible over the next 50 years:

- a potential net loss of freshwater and brackish habitat of c4000ha, primarily wet grassland and significant areas of coastal lagoon and reedbed;
- a potential net gain of intertidal (saltmarsh and mudflat) habitats of c 2200ha, associated with managed realignment balancing the expected losses due to coastal squeeze and erosion on the unprotected coast;
- a potential loss of c120ha of sand dunes. Although this represents about 1% of sand dune habitat in England and Wales, it may involve the loss of a significant proportion of important foredune species in some areas;
- a potential loss of c130ha of shingle bank habitat, representing about 4% of that habitat within European sites in England and Wales;
- 4.6 This report also identified a number of important coastal risk management-related issues that may constrain the successful implementation of the Habitats Directive. These included:
  - the conflict between maintaining the favourable condition of saltmarshes through managed realignment, and the resulting losses of freshwater habitats in some areas;
  - a significant loss of intertidal habitat if managed realignment is not implemented on the scale assumed in the report;
  - Long-term coastal squeeze is inevitable in front of most existing defences and will place pressure on bird populations, especially those which feed on mudflats and sandflats.
- 4.7 These findings were confirmed by the work of the joint English Nature / EA / Defra European Union funded LIFE Nature Project *Living with the Sea*. This project undertook a variety of innovative work including the development of Coastal Habitat Management Plans (CHaMPs) for areas subject to dynamic change. The project, while identifying a wide range of possible sites for both realignment and habitat re-creation deliberately avoided making decisions about where managed realignment should occur, rightly believing that such decisions should be based on the strategic approach offered by SMPs.
- 4.8 It is important that the second generation of SMPs and the current round of estuary strategies address the issue of realignment across freshwater sites and initiate measures to re-create wetland habitats where necessary. The Government provided the necessary financial commitment for this as long ago as 1998, however to date there has yet to be any re-creation of freshwater coastal wetlands as compensation for

impacts arising from managed realignment on a coastal Natura 2000 site. The work on a regional habitat creation programme being taken forward by EA's Anglian region is a step in the right direction but given the Habitats Regulations requirement to secure compensatory measures before damage occurs there is still much work to do. There is a looming credibility gap in the eyes of the voluntary sector between Government policy and on the ground delivery. This needs to be addressed urgently.

4.8.1 English Nature is refining its own position on this issue through close working between Maritime Team and the Water and Wetlands group in Environmental Impacts Team. English Nature's Maritime Strategy '*Our Coasts and Seas*' recognized that as the coast responds to climate change coastal ecosystems will need to be allowed to evolve and the mosaic of habitats and species at the coast will change. It is clear that when compensatory freshwater habitats are created that they will need to be located in sustainable locations; this will often need to be in locations away from the coast.

#### 5. Sectoral objectives

- 5.1 The rationale behind 'flood and coast defence works' has evolved considerably over the last 50 years with, for example, in the 1950's there was a strong emphasis on 'protecting' agricultural land. Today the focus is clearly placed on a suite of management measures involving the reduction of risk and maximizing environmental benefits. Although these changes have increasingly recognised the importance of nature conservation, there is still scope for further evolution to complete the shift of the remit from 'coastal defence' to 'coastal management' and ensure that the new approach delivers practical outcomes. We believe that either the 1949 Coast Protection Act should be replaced with a new 'Shoreline Management Act', suited to the needs of the 21<sup>st</sup> Century, or, as a minimum, the existing Act should be comprehensively amended in order to enable it to support delivery of sustainable coastal management.
- 5.2 We are pleased with the Government's response to the public consultation exercise on its *Making Space for Water* strategy; it marks a substantive shift in the Government's approach to river and coastal management. Embracing a holistic approach to coastal flood and erosion risk management will help create more sustainable coastlines and allow Government to meet its obligations under the Habitats Directive as well as support Biodiversity Action Plans. We will support the Government's follow up actions to take forward this work.
- 5.3 We believe that the rate of progress with managed realignment schemes is still disappointingly slow; it is not only failing to address ongoing habitat losses, it is falling short in the delivery of national Biodiversity targets and there is a real risk that unless the pace of realignment increases we will fail to achieve the SSSI PSA target by 2010. We believe it may be necessary to provide more encouragement and better incentives for managed re-alignment in order to achieve the Government environmental targets. Given the lead in time for managed realignment schemes this review is urgently needed. There may also be opportunities to streamline the consent process for managed realignment schemes.

- 5.4 There is also a need to adequately prioritise works to address 'inappropriate coastal management' as a cause of unfavourable condition of SSSIs and so help support achievement of the SSSI PSA Target. The requirements in this area will be clearer with the provision of costed action plans by 1 April 2006, a requirement of Defra's current High Level Targets.
- 5.5 The first generation of SMPs in many cases ignored or deferred the hard choices that needed to be made, often being hampered by limited knowledge of coastal processes; they also included virtually no wildlife enhancement opportunities. We believe the review of the first generation of SMPs together with the recent *Futurecoast* project and the revised SMP procedural guidance will greatly improve the quality of the second generation of SMPs. We are committed to working with Government, operating authorities and others to develop a second generation of SMPs (and associated coastal defence strategies) that provide a blueprint for the sustainable management of the coast, help deliver UK BAP targets for coastal habitats, and are consistent with the conservation objectives for European sites.
- 5.6 We believe the introduction of PPG25 'Development and Flood Risk' has substantially reduced inappropriate development in floodplains; however development is still occurring in unsustainable locations on cliff tops. We are also faced with a legacy of past development in locations that are unlikely to be sustainable in the medium to long term (50 to 100 years). These issues could be addressed by improving the links between SMPs and the planning system. We think it is important that new planning guidance is produced to enable erosion risk mapping to be effectively embraced by local authority frameworks and regional spatial strategies.
- 5.7 In taking forward this agenda we believe that it will be important for English Nature (and Natural England as its successor) to explain our own position and the rationale behind it. We believe the Maritime Strategy helps this process; however communication of these issues will be helped by a more detailed explanation of coastal issues to local communities.
- 5.8 One of the great challenges for coastal management is communicating the scale and extent of the adaptation that will be needed over the next 100 years to enable adjustment to climate change, the effects arising from the action of coastal processes, as well as the legacy of earlier development. We believe that greater attention needs to be given by all those involved in coastal management to this issue.

# 6. Summary of priority actions for 2005 to 2007 and key messages, key shapers, players and English Nature area teams for each priority action

#### **Priority Action 1**

The development, delivery and communication of English Nature's approach to sustainable coastal management through the actions in the new maritime strategy.

Specifically:

• working in partnership with operating authorities and coastal communities to develop an improved understanding of how coasts will evolve and to help determine realistic, long-term sustainable management options. In so doing conserve a healthy coast that is great for wildlife and creates a resource for public enjoyment;

#### **Priority Action 2**

# Championing all aspects of coastal management work, including both policy and operational issues, required to support achievement of the Government's SSSI PSA target.

Specifically:

- development of an agreed approach to SSSI PSA issues with Defra and the Environment Agency;
- encouraging appropriate commitment, prioritization and delivery from operating authorities for flood and coastal erosion risk management schemes required to restore SSSIs to favourable condition before the 2010 deadline.

#### **Priority Action 3**

Influencing the strategic approach of Government, its agencies, local authorities and operating authorities to achieve more sustainable approaches to coastal management. This will include seeking to improve the resilience of coastal and estuarine ecosystems; preventing the further restriction of mobile coasts; recreating unsustainable freshwater wetlands in sustainable locations and starting to address the problems caused by existing coastal defences on sediment movement and supply.

This includes:

- contributing to follow up work on Defra's new strategy for flood and coastal erosion risk management *Making Space for Water*; including championing the need for a wider suite of coastal erosion risk management tools;
- influencing the second generation of Shoreline Management Plans to ensure appropriate consideration is given to nature conservation issues and sustainable approaches to coastal management;

Priority action and key	Key shaper	Key player	English Nature lead
messages			team/individual
C1. The development,	DEFRA Flood Risk	Coastal groups (non-	Maritime Team (Tim
delivery and	Management Division	statutory groupings of	Collins / Coastal Unit)
communication of English Nature's	FA's Flood Risk	operating authorities	English Nature's coastal
annroach to	Management Function	largely organised on a	Area Teams including
sustainable coastal	(HQ, regions and areas)	'sediment cell' basis)	regional sector
management through		,	management leads.
the actions in the new	Coastal LAs	NT	
maritime strategy.			Regional Policy Officers
	Engineering	WWF; WTs;	
	consultancies	DCDD	
		КЪРВ	
C2. Championing all	Defra Flood Risk		Maritime Team (Tim
aspects of coastal	Management Division		Collins / Coastal Unit)
including both policy	EA's Flood Risk		English Nature's coastal
and operational issues.	Management Function		Area Teams including
required to support	(HQ, regions and areas)		regional sector
achievement of the			management leads
Government's SSSI	Coastal local authorities		
PSA target.			
C3. Influencing the	Defra Flood Risk	Coastal groups (non-	Maritime Team (Tim
strategic approach of	Management Division	statutory groupings of	Collins / Coastal Unit)
Government, its	EA's Elood Distr	coastal engineers from	English Natura's apastal
agencies, local	EA S FIOOU KISK Management Function	largely organised on a	Area Teams including
operating authorities to	(HO, regions and areas)	'sediment cell' basis)	regional sector
achieve more	(112, 10810115 und utous)		management leads
sustainable approaches	Coastal local authorities		0
to coastal management.			
This will include			
seeking to improve the			
resilience of coastal			
and estuarine			
the further restriction			
of mobile coasts: re-			
creating unsustainable			
freshwater wetlands in			
sustainable locations			
and starting to address			
the problems caused by			
existing coastal			
aciences on sediment			
movement and supply.			