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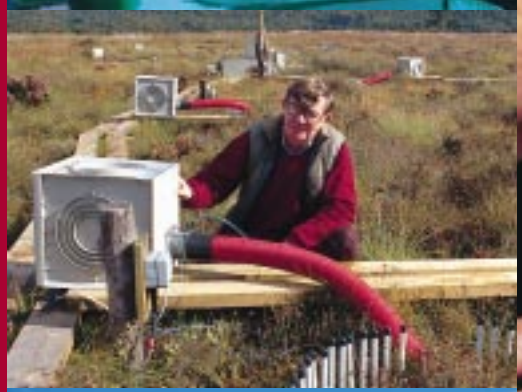

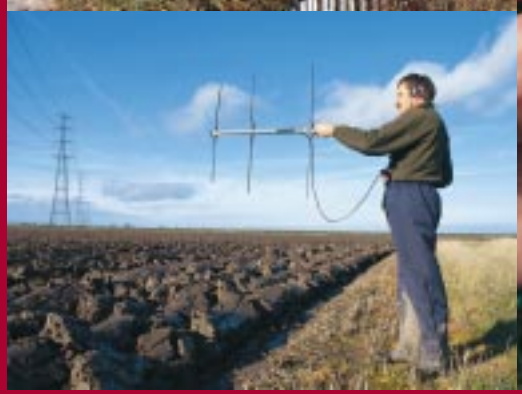

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Identification of biodiversity and geological conservation opportunties in three coastal Natural Areas: Tyne to Tees, Saltburn to Bridlington and Bridlington to Skegness

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Foreword

This study was commissioned by English Nature to identify environmental enhancement opportunities in advance of the production of second generation Shoreline Management Plans (SMPs). This work has therefore helped to raise awareness amongst operating authorities of biodiversity opportunities linked to the implementation of SMP policies. It is also the intention that taking such an approach will integrate shoreline management with the long term evolution of the coast and help delivery the targets set out in the UK Biodiversity Action Plan. In addition, Defra High Level Target 4 for Flood and Coastal Defence on biodiversity requires all operating authorities (coastal local authorities and the Environment Agency), as detailed below:

Target 4 - Biodiversity	By When	By Whom
A. Ensure no net loss to habitats covered by Biodiversity Action Plans and seek opportunities for environmental enhancements	Continuous	All operating authorities
B. In consultation with English Nature, review **Water Level Management Plans** for all priority[(1)] SSSIs that are in unfavourable condition, and submit to the Environment Agency a costed action plan of flood management measures to achieve favourable condition	1 April 2007	All relevant operating authorities
C. In consultation with English Nature, assess the **flood management measures** necessary to achieve the PSA target for SSSIs not covered by WLMPs[(2)] and submit to the Environment Agency a costed action plan of flood management measures to achieve favourable condition	1 April 2006	All relevant operating authorities
D. Report to the Environment Agency (i) flood and coastal erosion risk management measures taken that contributed to PSA target for SSSIs (ii) all losses and gains of habitats covered by UK Biodiversity Action Plans resulting from flood and erosion risk management operations	Annually by 1 April	All operating authorities
E. Environment Agency to report to Defra on the collated information from B, C and D above	Annually by 1 July	Environment Agency
F. Create at least 200 hectares of new Biodiversity habitat per annum as a result of flood management activities, of which at least 100 ha should be saltmarsh or mudflat[(3)]	Annually	Environment Agency

[(1)]Priority sites are those as identified in *Achieving the PSA Targets for SSSI: A review of the contribution of Water Level Management Plans*, Defra & English Nature, September, 2004.
[(2)]Including creating new habitat to offset the effects of coastal squeeze where that is the reason sites are in unfavourable condition.
[(3)]This target has been agreed as a key target and performance measure in the Environment Agency Corporate Plan. It is included here for clarity to indicate a minimum contribution to environmental targets that Defra expects the Agency to deliver annually in relation to its flood risk management programme funded by Defra Flood Defence Grant in Aid.

(Source: www.defra.gov.uk)

This report collates the outcomes of the facilitated workshops that were used to gather information about biodiversity opportunities and provides a breakdown of the biodiversity opportunities in the Natural Areas. The workshops were attended by staff from English

Nature and also by key stakeholder groups involved with conservation in the coastal environment (Appendix 1 provides a workshop participation list).

The aim of the workshops was to identify and discuss ideas for environmental enhancement opportunities ranging from large-scale realignment schemes to small scale habitat management projects that could implement both national and local Biodiversity Action Plan targets in the short and long term.

It is important to note that the proposals that have been put forward by attendees, and that are discussed in this report, have not been subject to detailed investigation. Each proposal has been briefly considered within the context of the current SMP policy and suggestions for revising the policies have been included, where appropriate. It is acknowledged however that biodiversity gain is just one part of the SMP process and that other social, economic and sustainability factors will need to consideration in the selection of the preferred coastal defence policy promoted by the operating authority.

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April 2005

Acknowledgements

The editor wishes to thank the author of the report Ian Cappitt of Bullen Consultants Ltd for achieving the presentation of the project findings in a clear and accessible format. Thanks are extended to Kathy Kennedy (Environment Management Consultant) for facilitating the workshops at Saltburn and Hull. The editor also thanks English Nature colleagues from Maritime Team, Environmental Impacts Team, and in Northumbria, North and East Yorkshire, Humber to Pennines and Eastern Area Teams for participation in the workshops and also to Denice Coverdale, Susan Wilson, Mike Quigley, Sue Rees and David Evans for providing comment on the draft report.

Summary

A study has been undertaken to provide a conservation 'vision' through the identification of biodiversity and geological conservation opportunities along the North East Coast within three English Nature Coastal Natural Areas; Tyne to Tees, Saltburn to Bridlington and Bridlington to Skegness. The primary project driver was the upcoming review of the first generation of Shoreline Management Plans and the opportunity to influence future policies in order to realise coastal environmental gain. Understanding where opportunities exist now and when they might be delivered within the next 100 years, was key in determining potential changes to existing SMP policy that may enable these opportunities to be realised. Links were also made to potential biodiversity and geological gain within existing coastal designated sites and enhancements that could be made toward maintaining and/or improving these sites were identified. Additionally, potential biodiversity opportunities where contributions towards national and local Biodiversity Action Plan targets for coastal habitats and species could be made were identified. Information about biodiversity and geological opportunities was gathered from environmental interest groups and other key stakeholders at two facilitated workshops.

For the Tyne to Tees Coastal Natural Area, a total of fifteen opportunities were documented, five of which would require a change in the existing SMP policy if they are to be realised. These were all managed realignment type projects. Delivery of the remaining ten opportunities was not dependent on changes to existing SMP policies, eg promotion of cliff-top agri-environment schemes. However, successful implementation of such schemes would in the longer term, benefit a dynamic coastal environment and provide a long term vision for SMP policy implementation. Between Saltburn and Bridlington, a total of four opportunities were documented, only one of which would require a change in the existing SMP policy if it was to be realised. This opportunity was associated with integrating SMP policy and land use planning policy to allow for a dynamic coastal to function and respond to change over the longer term. Delivery of the remaining three opportunities was not dependent on changes to existing SMP policies, eg development of planning initiatives for sustainable coastal assets. A total of thirteen opportunities were identified between Bridlington and Skegness, twelve of which would require a change in the existing SMP policy if they were to be realised. Many of these were various managed realignment projects.

Contents

1. Introduction

1.1 The aims of the project

The purpose of this study is to inform the Shoreline Management Plan (SMP) review 2005 and provide a conservation 'vision' that identifies biodiversity and geological conservation opportunities along the North East Coast within three English Nature Coastal Natural Areas; namely Tyne to Tees, Saltburn to Bridlington and Bridlington to Skegness.

The present project has a number of drivers. In the first instance, the need for the project has been partly driven from the results of a research study commissioned by Defra that examined how effectively the first generation of SMPs were produced and implemented. This concluded in part, that many first generation SMPs did not identify environmental enhancement opportunities associated with potential flood defence and coastal protection options. The first generation of SMPs are now in the process of being reviewed by Local Authorities and the Environment Agency. In addition to this, Defra are also working on procedural guidance to aid the production of SMPs and attention will be directed at how the second generation of SMPs will need to take account of environmental enhancement opportunities when reviewing existing policies. English Nature has recently published a Maritime Strategy 'Our Coasts and Seas' setting out their vision and objectives for the 21st Century.

1.2 Project objectives

The primary objectives of this study for each of the three Coastal Natural Areas are set out below:

- identification of biodiversity and geological conservation opportunities for the restoration and improvement of various types of coastal habitat within each Natural Area and where possible, links with existing designated sites or key nature conservation areas;
- identification of the benefits and constraints of each opportunity including the interaction between opportunities identified and other coastal activities in combination;
- identification of delivery mechanisms as to how each of these opportunities might be achieved, ie via the SMP review process or other associated mechanisms;
- identify potential amendments to current SMP policy and timescales for change;
- prioritisation of all opportunities identified;
- provide link between designated sites and SMP policy selection to support conservation interest;
- Identify how SMP policy selection can aid delivery of national and local biodiversity initiatives; and
- identification of further actions to deliver biodiversity benefits.

It should be noted that this report does not form a binding policy document, but sets out a 'vision' for future environmental gain.

1.3 English Nature as a key stakeholder in SMP review

A key priority for action identified by English Nature is to promote the identification and uptake of biodiversity opportunities in the development of SMP policies over the next 100 years. In addition and equally as important is the Public Service Agreement (PSA) target that requires 95% of SSSIs to be in a favourable condition by 2010. The following issues are therefore of principal concern and are of particular relevance to this project:

- past and present coastal defence works that have disrupted sedimentation processes and contributed to the ongoing loss of important habitats;
- significant annual loss of coastal habitats (up to 100ha) and cumulative adverse impacts on wildlife;
- coastal squeeze and inappropriate coastal management and the subsequent adverse impact on SSSIs;
- conflicts between nature conservation interests and development on the coast resulting from historic coastal management actions.

Future initiatives developed to address some of these issues have been presented by English Nature's Maritime Strategy 'Our Coastal and Seas' and include:

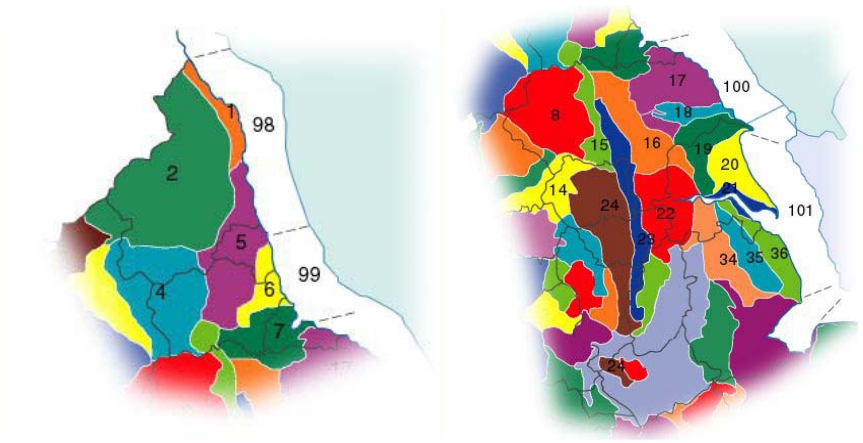
- the need for a cultural shift from coastal defence to sustainable coastal management, working with coastal processes for the benefit of people and wildlife;
- halting biodiversity loss and promoting the sustainable recovery of England's coasts and seas for wildlife with better management of coastal habitats, including adjacent farmland, to sustain and enhance biodiversity; and
- secure sufficient areas of appropriately managed land to compensate for those habitats that need to be moved away from the coast, eg existing protected freshwater grazing marsh which are subject to managed realignment or coastal processes.

It is important to stress that it is the purpose of this research report to put forward alternative coastal defence policies that promote environmental enhancement opportunities for incorporation into revisions of the current SMP. This is also in line with Defra's revised High Level Target for Flood and Coastal Defence, Target 4 (Biodiversity). This requires operating authorities to avoid damage to environmental interest, to ensure no net loss of habitats covered by Biodiversity Action Plans, to seek opportunities for environmental enhancement and to meet the PSA for all SSSIs. It should be noted that engagement in the SMP process will continue following the creation of Natural England comprising English Nature, the Countryside Agency and Defra Rural Development Service. Where any of these organiations are referred to in the tables, there will ultimately be a role for Natural England.

1.4 Methodology

The project was undertaken primarily through facilitated workshops involving representatives of organisations closely involved with habitat creation and management issues within the relevant Natural Areas. It is worth noting that although this report is structured by coastal Natural Area, implementation of the enhancement opportunities could occur with the adjacent terrestrial Natural Area (Figure 1).

The project also provides a key opportunity to link potential biodiversity and geological gain with existing coastal designated sites (of national and international importance) and contributions that can be made toward maintaining and/or improving these. In addition, the identification of potential biodiversity opportunities throughout the three Natural Areas will provide a platform from where contributions towards national and local Biodiversity Action Plan targets for coastal habitats and species can be quantified. A breakdown of Biodiversity Action Plan targets, by Natural Area is available from the English Nature web site (www.english-nature.org.uk/baps/intro.htm) and the published Biodiversity Action Plans for habitats and species are obtainable from the UK BAP web page (www.ukbap.org.uk/).



Coastal Natural area	Adjacent Terrestrial Natural Area
99. Tyne to Tees	6. Durham Magnesian Limestone Plateau
	7. Tees Lowlands
100. Saltburn to Bridlington	17. North York Moors and Hills
	18. Vale of Pickering
	19. Yorkshire Wolds
101. Bridlington to Skegness	20. Holderness
	36. Lincolnshire Coast and Marshes

Figure 1 Coastal and adjacent Terrestrial Natural Areas
(Only Natural Areas relevant to this report are detailed).

For each of the enhancement opportunities identified the report provides brief detail of the issues that require consideration by all parties engaged in reviewing the SMP. The detail in this report is exclusively focused on biodiversity gain. In addition to the workshops, this project has included a desk study of existing information including:

- UK Biodiversity Action Plan Targets;
- Local Biodiversity Action Plan Targets;
- English Nature's Natural Area descriptions;
- JNCC Coastal Directories;
- Halcrow *Futurecoast* CD-ROM; and
- Shoreline Management Plans produced by operating authorities.

1.4.1 Facilitated workshops

Two independently facilitated workshops were arranged with key stakeholders (see Appendix 1 for attendees and Appendix 2 for workshop materials). The primary aim of these was to maximise information output from a broad range of environmental professionals relevant to biodiversity and geological conservation opportunities within the three Coastal Natural Areas. Workshop 1 was held in Saltburn-by-the-Sea (23rd November 2004) and included the Tyne to Tees and Saltburn to Bridlington Natural Areas. Workshop 2 was located at Far Ings Nature Reserve Visitor Centre (2nd December 2004) and addressed the Bridlington to Skegness Coastal Natural Area. For the area between Donna Nook and Gibraltar Point (Lincolnshire) the output of a workshop conducted in 2003 was reviewed; this stakeholder meeting focused on identifying potential environmental enhancement opportunities along this coastline and areas for habitat enhancement such as freshwater marsh and dune restoration.

1.5 Shoreline Management Plans

A Shoreline Management Plan is a high level non-statutory document that forms an important element of the strategy for flood and coastal erosion risk management that is used by operating authorities. Its primary purpose is to provide a large-scale assessment of the adverse risks associated with coastal processes (coastal processes can also have positive environmental impacts) and in doing so, to present a policy framework to reduce these risks to people and the developed, historic and natural environment in a sustainable manner [(5)]. With regard to the future review of SMPs, the most recent guidance produced by Defra recognises that environmental implications are fundamental to policy appraisal and selection and highlights five key issues that need to be addressed with regard to appraising existing SMP policies. Firstly and of particular relevance to this project, is the need to address issues associated with the natural environment, including the implications of The Conservation (Natural Habitats &c.) Regulations 1994 and biodiversity targets on shoreline management and landscape interests.

In addition, the Defra guidance clearly sets out that the second generation of SMPs must identify policies that:

- Seek to avoid environmental damage;
- Minimise environmental damage where some impact is unavoidable;
- Identify in broad terms, suitable mitigation that could be provided to offset residual impacts where possible; and
- Identify opportunities for environmental enhancement.

1.5.1 SMP policies as delivery mechanisms

Existing first generation SMP policies may inhibit the realisation of identified / unidentified and un-quantified potential biodiversity and geological conservation opportunities both spatially and temporally. It is essential that in order to make a positive contribution to the second generation of SMPs (and future SMPs), each policy is reviewed for the applicable length of coast, taking into account all relevant opportunities.

In order to achieve significant biodiversity and geodiversity gains throughout each Coastal Natural Area, it is fundamental that the initial high level policy selection process recognises

and where possible, implements appropriate policies at an early stage. These can then be incorporated into strategy studies and ultimately into specific projects (see Figure 2).

The development by Defra in 2004 of interim *Procedural Guidance for Production of Shoreline Management Plans* proposes the following policy options:

- Hold the Existing Defence Line;
- Advance the Existing Defence Line;
- Managed Realignment; and
- No Active Intervention.

It should be noted that the term 'do nothing' has been replaced and re-defined as the policy option 'No Active Intervention' and that the previous use of 'Management Units' for applying policies is to be replaced by 'Policy Units'. To enable the context for this report to be set correctly it is strongly recommended that it is read in conjunction with the most up to date SMP guidance provided by Defra. Further detail can be obtained from http://www.defra.gov.uk/environ/fcd/policy/smp.htm

1.5.2 Policy time periods

The purpose of the SMP is to inform high level planning and promote sustainable management policies for the coast into the next century, thereby meeting long-term objectives without committing to unsustainable defences. However, it is recognised that there are present-day issues to address and that major changes to existing management practices may not be appropriate in the short-term. The next generation of SMPs will therefore introduce three time periods or epochs of 0-20 years, 20-50 years, and 50-100 years for defining objectives, policy and management changes, to enable progress towards a long-term vision for the coast. For example, in the first epoch a policy of 'Hold the Line' might be promoted, but that it is appreciated that long-term defence is unsustainable and that in the time period 20-50 years there will be a need to adopt a policy of 'Managed Realignment', the long-term vision may therefore be to lead to a coastal section with a policy of 'No Active Intervention'.

1.6 Other delivery mechanisms

Initiatives other than SMPs as a mechanism for realising biodiversity and geological conservation opportunities have also been considered where relevant (see Figure 2). These may include changes in existing land management practices supported through agri-environment schemes, identification in Regional Spatial Strategies and Local Development Frameworks and potentially River Basin Management Plans associated with the implementation of the Water Framework Directive. Wider landscape or recreational measures can also be delivered through implementation of Heritage Coast, AONB and National Park management plans where appropriate. Integrated Coastal Zone Management (ICZM) has the potential to fulfil the role of co-ordinating these mechanisms.

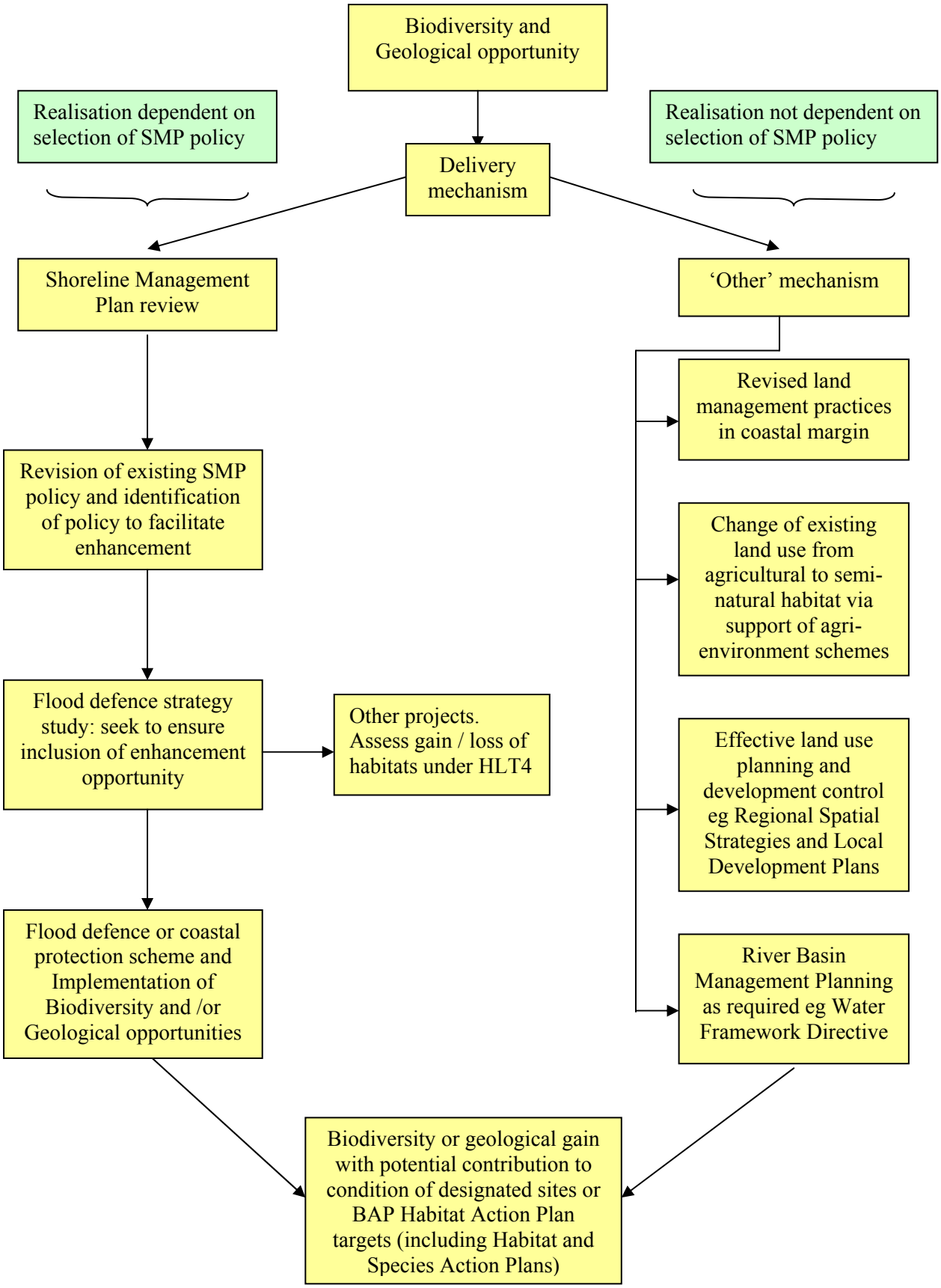


Figure 2 Potential delivery mechanisms biodiversity and / or geological conservation opportunities through the SMP Process.

1.7 Tyne to Tees Coastal Natural Area

The Tyne to Tees Coastal Natural Area, number 99 (see Figure 1), runs along the length of the coast from just north of Tynemouth (NGR NZ 370701) to Saltburn by the Sea (NGR NZ 670215). The following text briefly summarises some of the key features associated with this area.

1.7.1 Coastal geology, landforms and habitats

The coastal strata are Permian and Triassic (286 to 213 million years old). The majority of the coastline consists of cliffs made up of a thick cyclic sequence of marine limestone and dolomite. The West Hartlepool Fault at Hartlepool Bay marks the boundary between the Magnesian limestone to the north and the less resistant Triassic sandstones and mudstones to the south. Throughout, the solid geology is overlain in places by glacial deposits (boulder clay) from the Pleistocene period.

Between the Tyne and Hartlepool Cliffs, the coastline is made up of steep, sometimes vertical cliffs of various formations of Permian rocks. These are fronted by wave cut rock platforms, shingle and sand beaches. Stacks and arches occur at various locations. Deep cut valleys (denes) occur south of Seaham. Towards Crimdon, the cliffs decrease in height and south of Hartlepool, sand dunes give way to low cliffs of Triassic sandstone. Tees Bay is characterised by extensive mudflats, much of which has been reclaimed. Between the Tees Estuary and Saltburn, there is an accretion of sand and small cliffs near Redcar.

There are vegetation communities to a cliffed coastline, various sand dune formations, vegetated shingle structures and shorelines, coastal lagoons, coastal grazing marsh, saltmarsh and estuarine environments.

1.7.2 General land use and infrastructure

The coastal land use between Tyne and Saltburn is primarily a mixture of industrial and urban/ suburban development with the dominant land use type dependent on coastal location. Land utilised for agricultural purposes, although present, is sparse between the Tyne and Tees but does increase in area as the coastline becomes more rural between Redcar and Saltburn.

Much of this Coastal Natural Area is heavily populated (albeit inland) with Tyne and Wear, Durham and Cleveland the dominant centres. Smaller towns and villages such as Seaham and Redcar (coastal) are also present.

Key coastal industrial areas are primarily associated with estuarine ports and harbours on the Tyne, Wear and Tees (although some are situated on the open coast) where land claim has played an important role in their development and ultimately, the nature of the present landscape. Past and present industry includes collieries, dockyards, chemical and petrochemical works, steel works and oil refineries. There are a number of transport routes that run adjacent to, or are in the vicinity of the coastal margin.

1.8 Saltburn to Bridlington Coastal Natural Area

The Saltburn to Bridlington Coastal Natural Area, number 100 (see Figure 1), extends from Saltburn (NGR NZ 670215) to just north of Bridlington (NGR TA 200687). The following text briefly summarises some of the key features associated with this area.

1.8.1 Coastal geology, landforms and habitats

The coastal rocks between Saltburn and Filey are Jurassic (213 – 144 million years old) and include a variety of types; alternating shales and clay with chalk and ironstone, siltstone and sandstone. Fine clays dominate in areas of Lower Jurassic rock between Saltwick and Robin Hoods Bay. From here to Scarborough, middle Jurassic rocks are exposed that give way to Upper Jurassic between Gristhorpe and Filey (Oxford Clay and Lower Calcareous Grit). At Speeton, the Lower Cretaceous Speeton Clay is overlain by the Upper Cretaceous Chalk which forms the cliffs of Flamborough Head.

The resultant coastline within this Natural Area is predominantly made up of hard rock and soft rock cliffs of differing altitudes, sometimes up to 200m in height. Associated landforms include shore platforms, rotational slips and landslides, gully's, and small coves. Bays and headlands are also a common feature. Cliff areas of nature and geological conservation importance include those at Boulby, Robin Hood's Bay and Flamborough Head.

The key coastal habitats within the Saltburn to Bridlington Coastal Natural Area include hard and soft cliffs, cliff top vegetation, coastal grazing marsh and estuarine environments. Flamborough Head is a Special Area of Conservation for chalk reef and sea caves and a Special Protection Area for its breeding sea birds.

1.8.2 General land use and infrastructure

Agriculture is the main coastal land use between Saltburn and Bridlington interspersed with small coastal towns and villages. Semi-natural coastal habitats are also used for rough grazing. The majority of this Coastal Natural Area is sparsely populated, the largest settlements being Scarborough, Whitby and Filey. Industrial development is limited with minor ports at Scarborough and Whitby. Skinningrove, a former iron mining town, is still dominated by steel mills. There are a number of transport routes that run adjacent to, or are in the vicinity of the coastal margin. There are two Heritage coasts within the Natural Area, and the North York Moors National Park extends to the coast.

1.9 Bridlington to Skegness Coastal Natural Area

The Bridlington to Skegness Coastal Natural Area, number 101 (see Figure 1), extends from just north of Bridlington (NGR TA 200687) to Skegness (NGR TA 570590). The following text briefly summarises some of the key features associated with this area.

1.9.1 Coastal geology, landforms and habitats

From Bridlington south, the Holderness coast dominates made up of Devensian Tills, with associated areas of sands and gravels and between the Humber and the Wash, till crops out in places on the foreshore. The Holderness coast between Bridlington and the Humber is made up predominantly of unstable cliffs (up to 35m high near Easington) that are actively eroding

(on average 1.8m per year in places). Migrating bars made up of sandy shingle form the foreshore. Spurn, a 5km shingle spit capped by blown sand, is a dominant feature of the Humber estuary at this point with associated estuarine intertidal mudflats. South of the Humber, the coastline is accreting in places (Cleethorpes to Mablethorpe) with muddy sands flanked by extensive saltmarsh. Large areas of dunes are also present between Donna Nook and Mablethorpe. Narrow beaches, the result of an eroding coastline, characterise the coast south of here to Gibraltar Point, the most southern point of this Natural Area made up of dunes and a sand spit.

The key coastal habitats within the Bridlington to Skegness Coastal Natural Area include cliff and cliff top vegetation, sand dunes, vegetated shingle structures and shorelines, coastal lagoons, wet grassland, sand and mudflats and saltmarsh. The Humber is of international importance for a range of habitats and bird populations.

1.9.2 General land use and infrastructure

Agriculture and in particular, arable farming, is the main coastal land use along the Holderness and Lincolnshire coastline. The majority of this Coastal Natural Area (apart from the Humber Region, ie Hull and Grimsby) has a small coastal population, with Bridlington, Cleethorpes, Hornsea, Withernsea, Mablethorpe and Skegness being the main coastal towns. Industrial development is predominantly limited to the Humber region with major ports at Hull, Immingham and Grimsby along with other large scale industries such as oil refineries, chemical and engineering works and large scale fishing industries. There are a number of transport routes that run adjacent to, or are in the vicinity of the coastal margin.

1.10 Biodiversity and geological conservation opportunities

1.11 General

The biodiversity and geological conservation opportunities identified at each workshop are set out in the following section by Coastal Natural Area. All opportunities detailed in the flow diagrams have an identified '**Delivery Mechanism'**. This is either for opportunities that require revision to an existing SMP policy or continued policy support and are presented in the first instance for each area. Other environmental enhancement opportunities where delivery is not dependent upon revisions to existing SMP policies are presented in thereafter and labelled 'Not SMP' against the delivery mechanism.

The views expressed and selection of proposed lead authority in the following section may not necessarily be the views of the named organisations, but may have been proposed by a third party organisation at the workshop.

1.12 Strategic biodiversity and geological conservation issues

A number of strategic issues were raised with regard to the Tyne to Tees Coastal Natural Area. These are very generic and are therefore presented below as a prelude to the more detailed biodiversity and geological conservation opportunities as it was considered that they are relevant to all Coastal Natural Areas:

- Ensure SMP policies integrate with existing environmental policy, eg emerging Regional Spatial Strategies and Local Development Frameworks (development

control), Heritage Coast Management Plans, National Park Management Plans (where relevant), Regional Economic Strategies, and Tourism Strategies. The role of ICZM will be important to promote integration and co-ordination.

- Identify contribution of biodiversity and geodiversity (via SMP review) to overall landscape quality and character.
- Include policy for landward movement of cliff-top habitats.
- Develop hierarchy of policy for short, medium and long term threats where biodiversity and geodiversity needs might conflict with the need to protect infrastructure.
- Develop biodiversity and geodiversity aspects of engineering design ensuring exchange of best practice between areas.

Part 1 – Tyne to Tees Coastal Natural Area

1. Tyne to Tees Coastal Natural Area: Managed Realignment, Whitburn

Opportunity: Intertidal habitat creation through managed realignment. This may involve repositioning the flood defences inland (if present) allowing the sea to inundate a selected area.

Delivery Mechanism: Through revision of existing SMP

Management Unit	Existing SMP Policy	Recommended SMP Policy
B4 Whitburn	Do nothing	**RETREAT THE LINE (at least part of unit)**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	**Not specified**

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Policy review during SMP review 2005.
- Further examination of the coastline as this area is predominantly cliffed and may not be suitable for managed realignment projects.
- Determine priority.
- Identification of new SMP policy units associated with any managed realignment opportunities.
- Investigation into the acceptability of creating new areas of intertidal and transitional habitat.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Additional Information:

***1. Location*:** Land at Whitburn (*NGR NZ 413626*).

***2. Land Use*:** The site at Whitburn is a firing range although it is not clear whether this is still in use.

***3. Links to other Initiatives*:** The Durham Heritage Trust and the National Trust may be able to provide detailed information with regard to these sites. Current knowledge suggests that there is no known monitoring (eg associated with other projects) of these areas being undertaken at present.

***4. Benefits*:**

- There is the potential to create new and / or improve or extend existing habitats. For example, the creation of intertidal habitat such as saltmarsh exists in some of these areas ie by allowing tides to enter existing dune systems (where present).
- Managed realignment also provides an opportunity to contribute to a number of national priority HAP targets depending on the type of habitat created.

***5. Constraints*:**

- Loss of one type of habitat at the expense of another (eg dunes for saltmarsh).
- The impact on landowners.
- The existing land use requirement (eg arable land)
- The economic viability of such a scheme.

6. ***Proposed Lead Organisation***: The National Trust.

***7. Proposed Project Partners*:** The Durham Heritage Coast Partnership (DHCP) and Defra Flood Management Division.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

The Durham Coast SSSI (Units 5 and 6 – Littoral rock and exposed coastal cliffs): SSSI condition is favourable. No opportunities identified to improve or maintain this site. This site is also part of the Durham Coast SAC and the Northumbria Coast SPA and Ramsar sites that have nationally important numbers of wintering shore birds and little terns.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment can be used as mitigation (or compensation habitat) to offset coastal defence works along other lengths of coastline where hard defences are required. They may provide opportunities to create new areas of saltmarsh and coastal and floodplain grazing marsh habitat with associated species (eg breeding waders, water vole) along this coastline and contribute in part to achieving BAP targets and / or an overall increase in biodiversity (see below).

Saltmarsh:
No further net loss by creating 100ha/year for the period of this national biodiversity action plan. Specific target: maintain 40 hectare(s) by 2015. The possibility for sites to develop the full range of saltmarsh zonation should be examined.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Birds:
The above site is important for wintering migratory and wading birds. Any managed realignment opportunity would expand and diversify existing habitat with a potential increase the capacity for important bird species.

2. Tyne to Tees Coastal Natural Area: Managed Realignment, Blackhall

Opportunity: Intertidal habitat creation through managed realignment. This may involve repositioning the flood defences inland (if present) allowing the sea to inundate a selected area.

Delivery Mechanism: **Through revision of existing SMP policy**

Management Unit	Existing SMP Policy	Recommended SMP Policy
B8 Hendon Ryhope	Hold the line	**RETREAT THE LINE (at least part of unit)**
B9 Ryhope	Do nothing	

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	**Not specified**

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Policy review during SMP review 2005.
- Further examination of the coastline as this area is predominantly cliffed and may not be suitable for managed realignment projects.
- Determine priority.
- Identification of new SMP policy units associated with any managed realignment opportunities.
- Investigation into the acceptability of creating new areas of intertidal habitat.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Additional Information:

***1. Location*:** Land at Blackhall (*NGR NZ 445419*).

***2. Land Use*:** The site at Blackhall was previously a magma works and is now used for arable production.

***3. Links to other Initiatives*:** The Durham Heritage Trust and the National Trust may be able to provide detailed information with regard to these sites. Current knowledge suggests that there is no known monitoring (eg associated with other projects) of these areas being undertaken at present.

***4. Benefits*:**

- There is the potential to create new and / or improve or extend existing habitats. For example, the creation of intertidal habitat such as saltmarsh exists in some of these areas ie by allowing tides to enter existing dune systems (where present).
- Managed realignment also provides an opportunity to contribute to a number of national priority HAP targets depending on the type of habitat created.

***5. Constraints*:**

- Loss of one type of habitat at the expense of another (eg dunes for saltmarsh).
- The impact on landowners.
- The existing land use requirement (eg arable land)
- The economic viability of such a scheme.

***6. Proposed Lead Organisation*:** The National Trust.

***7. Proposed Project Partners*:** The Durham Heritage Coast Partnership (DHCP) and Defra Flood Management Division.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

The Durham Coast SSSI (Units 14 and 15 – Littoral rock.): SSSI is in favourable condition. Site supports purple sandpiper. No opportunities identified to improve or maintain this site. This site is also part of the Durham Coast SAC and the Northumbria Coast SPA and Ramsar sites that have nationally important numbers of wintering shore birds and little terns.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment can be used as mitigation (or compensation habitat) to offset coastal defence works along other lengths of coastline where hard defences are required. They may provide opportunities to create new areas of saltmarsh and coastal and floodplain grazing marsh habitat with associated species (eg breeding waders, water vole) along this coastline and contribute in part to achieving BAP targets and / or an overall increase in biodiversity (see below).

Saltmarsh:
No further net loss by creating 100ha/year for the period of this national biodiversity action plan. Specific target: maintain 40 hectare(s) by 2015. The possibility for sites to develop the full range of saltmarsh zonation should not be ignored.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Birds:
The above site is important for wintering migratory and wading birds. Any managed realignment opportunity would expand and diversify existing habitat with a potential increase the capacity for important bird species.

3. Tyne to Tees Coastal Natural Area: Managed Realignment, Horden

Opportunity: Intertidal habitat creation through managed realignment. This may involve repositioning the flood defences inland (if present) allowing the sea to inundate a selected area.

Delivery Mechanism: **Through revision of existing SMP policy**

Management Unit	Existing SMP Policy	Recommended SMP Policy
C3 Easington and Horden	Do nothing	**RETREAT THE LINE (at least part of unit**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	**Not specified**

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Policy review during SMP review 2005.
- Further examination of the coastline as this area is predominantly cliffed and may not be suitable for managed realignment projects.
- Determine priority.
- Identification of new SMP policy units associated with any managed realignment opportunities.
- Investigation into the acceptability of creating new areas of intertidal habitat.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Additional Information:

***1. Location*:** Land at Horden (*NGR NZ 421509 to NZ 410557*).

***2. Land Use*:** The site at Horden is currently used for arable production.

***3. Links to other Initiatives*:** The Durham Heritage Trust and the National Trust may be able to provide detailed information with regard to these sites. Current knowledge suggests that there is no known monitoring (eg associated with other projects) of these areas being undertaken at present.

***4. Benefits*:**

- There is the potential to create new and / or improve or extend existing habitats. For example, the creation of intertidal habitat such as saltmarsh exists in some of these areas ie by allowing tides to enter existing dune systems (where present).
- Managed realignment also provides an opportunity to contribute to a number of national priority HAP targets depending on the type of habitat created.

***5. Constraints*:**

- Loss of one type of habitat at the expense of another (eg dunes for saltmarsh).
- The impact on landowners.
- The existing land use requirement (eg arable land)
- The economic viability of such a scheme.

***6. Proposed Lead Organisation*:** The National Trust.

***7. Proposed Project Partners*:** The Durham Heritage Coast Partnership (DHCP) and Defra Flood Management Division.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

The Durham Coast SSSI (Units 29 and 32 – Littoral sediment). SSSI condition is unfavourable recovering. This is due to colliery wastes covering beaches. These will eventually clear due to natural coastal processes. Implementation of managed realignment may provide opportunities for additional and better quality habitat eg saltmarsh or grazing marsh during this recovery period. This site is also part of the Durham Coast SAC.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment can be used as mitigation (or compensation habitat) to offset coastal defence works along other lengths of coastline where hard defences are required. They may provide opportunities to create new areas of saltmarsh and coastal and floodplain grazing marsh habitat with associated species (eg breeding waders, water vole) along this coastline and contribute in part to achieving BAP targets and / or an overall increase in biodiversity (see below).

Saltmarsh:
No further net loss by creating 100ha/year for the period of this national biodiversity action plan. Specific target: maintain 40 hectare(s) by 2015.
The possibility for sites to develop the full range of saltmarsh zonation should not be ignored.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Birds:
The above site is important for wintering migratory and wading birds. Any managed realignment opportunity would expand and diversify existing habitat with a potential increase the capacity for important bird species.

4. Tyne to Tees Coastal Natural Area: Managed Realignment, Greatham Creek (south-west cell)

Opportunity: To set back existing flood defence structures and allow a landward extension of the existing grazing marsh.

Delivery Mechanism: **Through revision of existing SMP policy**

Management Unit	Existing SMP Policy	Recommended SMP Policy
C10 Teesmouth	Hold the line	**RETREAT THE LINE**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Policy review during SMP review 2005 or 2010 with projects within the next 5 to 8 years
- Identification of new SMP policy units associated with this managed realignment opportunity.
- Cost–benefit analysis with regard to the longer-term benefits of realigned flood defence structures and associated maintenance costs as opposed to existing scenario.
- Further examination of opportunity to contribute to the recovery of Cowpen Marsh SSSI (unit 2).
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Additional Information:

***1. Location*:** South-west cell of Greatham Creek (*NGR NZ 495250)*

***2. Land Use*:** Grazing marsh and agricultural land.

***3. Links to other initiatives*:** Environment Agency review of the Tees Tidal Defences, Teesmouth and Cleveland Coast SPA Management Scheme. In addition, there is a good knowledge base available with regard to the Greatham Creek are ie topography, habitat types, and current sea defences. Bird monitoring is currently undertaken with regard to use of the site.

***4. Benefits*:**

- Increase in the tidal prism of the upper estuary.
- Better protection of the realigned seawall from erosion due to saltmarsh frontage (potential economic benefits).
- Creation of new saltmarsh habitats and creation of enhanced grazing marsh habitat to compensate for losses to saltmarsh.

***5. Constraints*:**

- Constraints include land in question is privately owned, focusing participation of the landowner and the costs associated with realigning the sea defences.

***6. Proposed Lead Organisation*:** Environment Agency.

***7. Proposed Project Partners*:** Potential partners may include English Nature, Hartlepool Borough Council, Stockton Borough Council, RSPB and landowners.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Cowpen Marsh SSSI (Unit 2 – Neutral grassland, lowland): Unfavourable no change. Habitat degraded due to inappropriate stock feeding, water level management issues and inappropriate grazing regime. There is a potential opportunity to increase the area of saltmarsh and grazing marsh through realigning the defences in this area leading to an expansion of the designated site. Any extension of the existing grazing marsh habitat through managed realignment would need to be complimented by an agreed management regime at this site that is effectively implemented. The site is also part of the Teesmouth and Cleveland Coast SPA and Ramsar.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment can be used as mitigation (or compensation habitat) to offset coastal defence works along other lengths of coastline where hard defences are required. They may provide opportunities to create new areas of saltmarsh and coastal and floodplain grazing marsh habitat with associated species (eg breeding waders, water vole) along this coastline and contribute in part to achieving BAP targets and / or an overall increase in biodiversity (see below).

Saltmarsh:
No further net loss by creating 100ha/year for the period of the plan.
Specific target: maintain 40 hectare(s) by 2015.
The possibility for sites to develop the full range of saltmarsh zonation should not be ignored.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Birds:
The above site is important for wintering migratory and wading birds. Any managed realignment opportunity would expand and diversify existing habitat with a potential increase the capacity for important bird species.

5. Tyne to Tees Coastal Natural Area: Managed Realignment, Greatham Creek (north-east cell)

Opportunity: To set back existing flood defence structures and allow a landward extension of the existing grazing marsh.

Delivery Mechanism: **Through revision of existing SMP policy**

Management Unit	Existing SMP Policy	Recommended SMP Policy
C10 Teesmouth	Hold the line	**RETREAHE LINE**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Policy review during SMP review 2005 or 2010 with projects within the next 5 to 8 years
- Identification of new SMP policy units associated with this managed realignment opportunity.
- Cost–benefit analysis with regard to the longer-term benefits of realigned flood defence structures and associated maintenance costs as opposed to existing scenario.
- Further examination of opportunity to contribute to the recovery of Cowpen Marsh SSSI (unit 2).
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Additional Information:

***1. Location*:** North-east cell of Greatham Creek (*NGR NZ 503 252)*

***2. Land Use*:** Grazing marsh and agricultural land.

***3. Links to other initiatives*:** Environment Agency review of the Tees Tidal Defences, Teesmouth and Cleveland Coast SPA Management Scheme. In addition, there is a good knowledge base available with regard to the Greatham Creek are ie topography, habitat types, and current sea defences. Bird monitoring is currently undertaken with regard to use of the site.

***4. Benefits*:**

- Increase in the tidal prism of the upper estuary.
- Better protection of the realigned seawall from erosion due to saltmarsh frontage (potential economic benefits).
- Creation of new saltmarsh habitats and creation of enhanced grazing marsh habitat to compensate for losses to saltmarsh.

***5. Constraints*:**

- Constraints include land in question is privately owned, focusing participation of the landowner and the costs associated with realigning the sea defences.

***6. Proposed Lead Organisation*:** Environment Agency.

***7. Proposed Project Partners*:** Potential partners may include English Nature, Hartlepool Borough Council, Stockton Borough Council, RSPB and landowners.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Cowpen Marsh SSSI (Unit 1 – Littoral sediment): SSSI condition is favourable. There is a potential opportunity to increase the area of saltmarsh and grazing marsh through realigning the defences in this area leading to an expansion of the designated site. The site is also part of the Teesmouth and Cleveland Coast SPA and Ramsar.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment can be used as mitigation (or compensation habitat) to offset coastal defence works along other lengths of coastline where hard defences are required. They may provide opportunities to create new areas of saltmarsh and coastal and floodplain grazing marsh habitat with associated species (eg breeding waders, water vole) along this coastline and contribute in part to achieving BAP targets and / or an overall increase in biodiversity (see below).

Saltmarsh:
No further net loss by creating 100ha/year for the period of this national biodiversity action plan. Specific target: maintain 40 hectare(s) by 2015. The possibility for sites to develop the full range of saltmarsh zonation should not be ignored.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Birds:
The above site is important for wintering migratory and wading birds. Any managed realignment opportunity would expand habitat area with a potential increase the capacity for important bird species.

6. Tyne to Tees Coastal Natural Area: Beneficial Use of Dredged Materials, Hart Warren Dunes

Opportunity: Dredged materials could be used to expand habitat area at Hart Warren Dunes. More specifically, areas of beach recharge and offshore sandbanks. It should be noted that beach recharge is not needed here for coastal defence reasons.

Delivery Mechanism: **Not SMP**

Recommended Delivery Initiative

As an additional work item associated with the Teesport Port Authorities dredging programme.

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Implementation essential as a shortage of safe roosts has already been implicated in the decline of some SPA features.
- Projects within the next 4-5 years.
- Contact with Teesport Port Authority.
- Investigation into the sustainability of creating such habitats, their longevity and future cost implications.
- Quantification of potential area of habitat types that could be created.
- Further examination required into the impact of utilising dredged materials eg on navigation.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Additional Information:

***1. Location*:** Land at Hart Warren Dunes (*NGR NZ 485375*).

***2. Land Use*:** Coastal sand dune system.

***3. Links to other Initiatives*:** Teesmouth and Cleveland Coast SPA Management Scheme, Durham Heritage Coast, Tees Valley Biodiversity Action Plan, Durham Biodiversity Action Plan, Industry and Nature Conservation Association.

***4. Benefits*:**
- Opportunities to create near shore sandbanks.
- Predator free islands for breeding little tern (SPA Annex 1 species).

***5. Constraints*:**
- Constraints include use of contaminated dredged material.
- Potential risks to navigation.
- Habitat regulations and other consenting regimes (eg FEPA, CPA).

***6. Proposed Lead Organisation*:** Teesport Port Authority.

***7. Proposed Project Partners*:** English Nature, Environment Agency, Hartlepool Borough Council, Redcar and Cleveland Borough Council, Easington District Council and Crown Estates.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

The Durham Coast SSSI (Unit 41 – Calcareous grassland, lowland). SSSI condition is unfavourable recovering. Issue has been establishment of scrub that is now being cleared. There is also littoral sediment (unit 42) adjacent to this site that is important for breeding and non-breeding shorebirds. There may be the potential to expand the overall habitat availability in this area with effective use of dredged material eg nesting islands for little terns. The site is also part of the Teesmouth and Cleveland Coast SPA.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

There may be a possibility of contributing to the maintenance of the sand dune resource through beach recharge. However, the existing sand dune system is subject to dynamic coastal processes that should be allowed to continue uninterrupted. Opportunities to improve habitat diversity eg nesting islands with associated species eg breeding birds along this coastline may also contribute in part to achieving BAP targets and / or an overall increase in biodiversity (see below).

Sand Dune:
Protect the existing sand dune resource along the Tyne to Tees Coast from further losses (subject to natural change). Ensure that shoreline management plans promote policies, which will allow dynamic processes for the creation and maintenance of dunes to operate, where practicable, and so sustain the area and quality of this habitat. Specific target: maintain 330 hectare(s) by 2010.

Birds:
The above site is important for breeding and non-breeding shorebirds. Opportunities to expand habitat area and breeding sites may contribute to maintenance or increases of existing bird populations.

/

7. Tyne to Tees Coastal Natural Area: Beneficial Use of Dredged Materials, South Gare and Coatham Sands

Opportunity: Dredged materials could be used to expand habitat area at South Gare and Coatham Sands. More specifically, areas of beach recharge and offshore sandbanks. It should be noted that beach recharge is not needed here for coastal defence reasons.

Delivery Mechanism: **Not SMP**

Recommended Delivery Initiative

As an additional work item associated with the Teesport Port Authorities dredging programme.

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Implementation essential as a shortage of safe roosts has already been implicated in the decline of some SPA features.
- Projects within the next 4-5 years.
- Contact with Teesport Port Authority.
- Investigation into the sustainability of creating such habitats, their longevity and future cost implications.
- Quantification of potential area of habitat types that could be created.
- Further examination required into the impact of utilising dredged materials eg on navigation.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Additional Information:

***1. Location*:** Land at South Gare and Coatham Sands (*NGR NZ570263*).

***2. Land Use*:** Part of Teesmouth Flats and Marshes and comprise a wide range of coastal habitats including extensive tracts of intertidal mud and sand, sand dunes, saltmarsh and freshwater marsh.

***3. Links to other Initiatives*:** Teesmouth and Cleveland Coast SPA Management Scheme, Durham Heritage Coast, Tees Valley Biodiversity Action Plan, Durham Biodiversity Action Plan, Industry and Nature Conservation Association.

***4. Benefits*:**
- Opportunities to create near shore sandbanks.
- Predator free islands for breeding little tern (SPA Annex 1 species).

***5. Constraints*:**
- Constraints include use of contaminated dredged material.
- Potential risks to navigation.
- Habitat regulations and other consenting regimes (eg FEPA, CPA).

***6. Proposed Lead Organisation*:** Teesport Port Authority.

***7. Proposed Project Partners*:** English Nature, Environment Agency, Hartlepool Borough Council, Redcar and Cleveland Borough Council, Easington District Council and Crolm Estates.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSI's in favourable condition by 2013).

South Gare and Coatham Sands SSSI (Unit 1: Supralittoral sediment and associated flora and fauna): SSSI condition **if** favourable. This site is important for breeding and non-breeding shorebirds. There may be the potential to expand available habitat in this area with effective use of dredged material eg nesting islands for little terns. The site is also part of the Teesmouth and Cleveland Coast SPA.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

There may be a possibility of contributing to the maintenance of the sand dune resource through beach recharge. However, the existing sand dune system is subject to dynamic coastal processes that should be allowed to continue uninterrupted. Opportunities to improve habitat diversity eg nesting islands with associated species eg breeding birds along this coastline may also contribute in part to achieving BAP targets.

Sand Dune:
Protect the existing sand dune resource along the Tyne to Tees Coast from further losses (subject to natural change). Ensure that shoreline management plans promote policies, which will allow natural processes for the creation and maintenance of dunes to operate, where practicable, and so sustain the area and quality of this habitat. Specific target: maintain 330 hectare(s) by 2010.

Birds:
The above site is important for breeding and non-breeding shorebirds. Opportunities to expand habitat area and breeding sites may contribute to maintenance or increases of existing bird populations.

8. Tyne to Tees Coastal Natural Area: Beneficial Use of Dredged Materials, Seaton Sands

Opportunity: Dredged materials could be used to expand habitat area at Seaton Sands including potential to create saline lagoons.

Additional Information:

***1. Location*:** Land at Seaton Sands (*NGR NZ 530293*).

***2. Land Use*:** Part of Teesmouth Flats and Marshes and comprise a wide range of coastal habitats including extensive tracts of intertidal mud and sand, sand dunes, saltmarsh and freshwater marsh.

***3. Links to other Initiatives*:** Teesmouth and Cleveland Coast SPA Management Scheme, Durham Heritage Coast, Tees Valley Biodiversity Action Plan, Durham Biodiversity Action Plan, Industry and Nature Conservation Association.

***4. Benefits*:**
- Opportunities to create near shore sandbanks.
- Predator free islands for breeding little tern (SPA Annex 1 species).

***5. Constraints*:**
- Constraints include use of contaminated dredged material.
- Potential risks to navigation.
- Habitat regulations and other consenting regimes (eg FEPA, CPA).

***6. Proposed Lead Organisation*:** Teesport Port Authority.

***7. Proposed Project Partners*:** English Nature, Environment Agency, Hartlepool Borough Council, Redcar and Cleveland Borough Council, Easington District Council and Crolm Estates.

Delivery Mechanism: **Not SMP**

Recommended Delivery Initiative

As an additional work item associated with the Teesport Port Authorities dredging programme.

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Implementation essential as a shortage of safe roosts has already been implicated in the decline of some SPA features.
- Projects within the next 4-5 years.
- Contact with Teesport Port Authority.
- Investigation into the sustainability of creating such habitats, their longevity and future cost implications.
- Quantification of potential area of habitat types that could be created.
- Further examination required into the impact of utilising dredged materials eg on navigation.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSI's in favourable condition by 2013).

Seaton Dunes and Common SSSI (Unit 1 to 6: Supralittoral and littoral sediment and associated flora and fauna): SSSI unit 2 condition is unfavourable declining due to inappropriate scrub control of sea buckthorn. There may be the potential to expand habitat in this area with effective use of dredged material. The site is also part of the Teesmouth and Cleveland Coast SPA.

2. Potential contribution that could be made towards achieving national priority and/or local priority BAP targets:

There may be a possibility of contributing to the maintenance of the sand dune resource through beach recharge. However, the existing sand dune system is subject to dynamic coastal processes that should be allowed to continue uninterrupted. Opportunities to improve habitat diversity eg nesting islands with associated species eg breeding birds along this coastline may also contribute in part to achieving BAP targets.

Sand Dune:
Protect the existing sand dune resource along the Tyne to Tees Coast from further losses (subject to natural change). Ensure that shoreline management plans promote policies, which will allow dynamic processes for the creation and maintenance of dunes to operate, where practicable, and so sustain the area and quality of this habitat. Specific target: maintain 330 hectare(s) by 2010.

Birds:
The above site is important for breeding and non-breeding shorebirds. Opportunities to expand habitat area and breeding sites may contribute to maintenance or increases of existing bird populations.

9. Tyne to Tees Coastal Natural Area: Beneficial Use of Dredged Materials, Bran Sands

Opportunity: Dredged materials could be used to expand habitat area at Bran Sands including new roosting structures.

Delivery Mechanism: **Not SMP**

Recommended Delivery Initiative

As an additional work item associated with the Teesport Port Authorities dredging programme.

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Implementation essential as a shortage of safe roosts has already been implicated in the decline of some SPA features.
- Projects within the next 4-5 years.
- Contact with Teesport Port Authority.
- Investigation into the sustainability of creating such habitats, their longevity and future cost implications.
- Quantification of potential area of habitat types that could be created.
- Further examination required into the impact of utilising dredged materials eg on navigation.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Additional Information:

***1. Location*:** Land at Bran Sands (*NGR NZ 550220*).

***2. Land Use*:** Part of Teesmouth Flats and Marshes and comprise a wide range of coastal habitats including extensive tracts of intertidal mud and sand, sand dunes, saltmarsh and freshwater marsh.

***3. Links to other Initiatives*:** Teesmouth and Cleveland Coast SPA Management Scheme, Durham Heritage Coast, Tees Valley Biodiversity Action Plan, Durham Biodiversity Action Plan, Industry and Nature Conservation Association.

***4. Benefits*:**
- Opportunities to create new roosting structures.
- Predator free islands for breeding little tern (SPA Annex 1 species).

***5. Constraints*:**
- Constraints include use of contaminated dredged material
- Potential risks to navigation.
- Habitat regulations and other consenting regimes (eg FEPA, CPA).

***6. Proposed Lead Organisation*:** Teesport Port Authority.

***7. Proposed Project Partners*:** English Nature, Environment Agency, Hartlepool Borough Council, Redcar and Cleveland Borough Council, Easington District Council and Crolm Estates.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

South Gare and Coatham Sands SSSI (Unit 2: Littoral sediment and associated flora and fauna): SSSI condition is favourable. This site is important for breeding and non-breeding shorebirds. There may be the potential to expand habitat in this area with effective use of dredged material eg nesting islands for little terns. The site is also part of the Teesmouth *and Cleveland Coast SPA.*

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

The above site is important for breeding and non-breeding shorebirds. Opportunities to expand habitat and breeding sites may contribute to maintenance or increases of existing bird populations.

10. Tyne to Tees Coastal Natural Area: Cliff Top habitat creation, Sunderland and Seaham

Opportunity: Modify agricultural land use along the coast between Sunderland and Seaham Cliff Top that could be used to increase the extent of areas of existing semi-natural cliff-top habitat.

Additional Information:

***1. Location*:** Sunderland to Seaham Cliff Top (*NGR NZ 435495 to NZ 426570*).

***2. Land Use*:** The primary land use along this length of coastline landward of the existing cliff top habitat is arable production.

***3. Links to other Initiatives*:** The Durham Heritage Trust and National Trust may be able to provide detailed information with regard to this length of coastline.

***4. Benefits*:**
- Increased area of semi-natural cliff top habitat and ultimately, reduce the impact and extent of 'coastal squeeze' ie in this case the loss of semi-natural habitat that is fixed between the eroding coastal margin and the fixed landward boundaries of agricultural fields that in some cases are expanding towards the cliff top edge.
- Potential benefits to farmers in becoming involved in agri-environment schemes.
- Potential opportunities to increase access for recreational purposes.

***5. Constraints*:**
- Impacts on landowners and existing land use ie modification of arable production.

***6. Proposed Lead Organisation*:** The National Trust.

***7. Proposed Project Partners*:** Durham Heritage Coast Partnership, the Regional Development Service (Defra) and local authorities responsible for Local Development Frameworks.

Delivery Mechanism: Not SMP

Recommended Delivery Initiative

Negotiation to revise land management to benefit biodiversity through agri-environment schemes such as entry level or high level schemes.

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	**Long Term: 50 to 100 years**

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Advise Local Development Frameworks to preclude inappropriate development behind cliff-top grassland habitat to roll landwards.
- Desktop prioritisation of Natural Area coastline for phased approach to cliff-top habitat restoration via agri-environment schemes.
- Identification areas that are already in agri-environment schemes and potential opportunities for extension.
- Quantification of potential area of BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Further examination of opportunities associated with amenity and recreation along coastline.
- Further investigation into viability of long term changes to existing SMP policies, at least as part of new policy units.
- Review SMP policies on an iterative basis.
- Investigate further proposed lead organisation(s), proposed partnership opportunities and sources of funding.

If revised land management practices result in extended cliff top habitat and therefore resource, it may be possible to revise future SMP policies in certain areas along this length of coastline. For this reason, an additional table has been included here suggesting long term SMP policy revisions.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Durham Coast SSSI (Units 14 and 15: Littoral rock). Site maintained to support purple sandpiper. SSSI condition is favourable. Revised cliff top land use and management practices enabling future SMP policy change would facilitate on-going coastal evolution. Site is also within the Durham Coast SAC, Northumbria Coast SPA and Ramsar.

2. Potential contribution that could be made towards achieving national priority and or local priority BAP targets:

The coastline within this Natural Area eg Durham coast, is important for lime-rich grassland, a habitat much reduced by agriculture elsewhere. Opportunities to improve and increase the extent of cliff top habitat along this coastline may contribute in part to achieving national BAP targets (see below).

Maritime Cliff and Slope:
Seek to maintain the existing maritime cliff resource, by ensuring no further loss to extent or quality of cliff-top semi-natural habitats. Specific target: maintain 33 kilometres by 2015.

Ensure that Shoreline Management Plans promote policies, which will maintain, wherever possible, free functioning of coastal processes acting on maritime cliff and slope habitats.

Increase the area of cliff-top semi-natural habitats by minimum of 10 ha by 2020. Specific target: increase by 10 hectare(s) by 2020.

Improve by appropriate management the quality of at least 30% of the maritime cliff and slope habitats, including cliff-top grassland and heath, by 2010, and as much as possible before 2015. Specific target: restore 10 kilometres by 2015.

Other flora and fauna interests:
Extensive habitat improvement and creation may benefit associated maritime cliff and slope biodiversity eg cliff flora such as maritime red fescue, thrift, sea plantain, and fauna such as gannet, shag and razorbill.

Management Unit	Existing SMP Policy	Recommended SMP Policy
B7 Sunderland	Hold the line	**Do nothing (at least for part of unit**
B8 Hendon	Hold the line	
B9 Ryhope	Do nothing	
B10 Seaham	Hold the line	

11. Tyne to Tees Coastal Natural Area: Enhancements to Marine Structures and Hard Sea Defences at South Shields

Opportunity: Environmental enhancements to existing and future marine structures and hard sea defences eg creation of additional roosting sites for bird species and foraging opportunities. It must be noted that such opportunities do not negate the need for appropriate mitigation and/or compensation habitat to be provided as part of coastal defence schemes.

Additional Information:

1. Location: Land at South Shields (*NGR NZ 389664*).

***2. Land Use*:** Existing sea defence structures.

***3. Links to other Initiatives*:** Heritage Coast and Tees Valley Biodiversity Action Plan.

***4. Benefits*:**
Creation of additional roosting sites for bird species and foraging opportunities. There are also potential educational opportunities associated with these projects.

***5. Constraints*:**
The effect on the existing coastal defence structures and associated costs of implementing the projects.

***6. Proposed Lead Organisation*:** South Shields Borough Council.

***7. Proposed Project Partners*:** English Nature and Port of Tyne Authority.

Delivery Mechanism: Not SMP

Recommended Delivery Initiative
Appropriately designed environmental enhancements that effectively utilise existing and future coastal defence structures

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	**Medium**	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Identification of specific enhancement opportunities associated with existing and future coastal protection and / or flood defence structures.
- Further examination of potential contribution to condition of SSSI's and priority BAP habitats and species.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s), proposed partnership opportunities and sources of funding.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Durham Coast SSSI (Unit 3: Littoral rock that is geologically important for coastal cliffs. In addition the rock shore habitat is utilised and maintained for purple sandpipers). SSSI condition is favourable. Environmental enhancements associated with nearby coastal flood defence structures may contribute to the overall diversity of bird species roosting and breeding in this area. The site is also within the Durham SAC.

2. Potential contribution that could be made towards achieving national priority and/or local priority BAP targets:

The above site is important for breeding and non-breeding shorebirds. Opportunities to expand habitat area and breeding sites may contribute to maintenance or increases of existing bird populations.

12. Tyne to Tees Coastal Natural Area: Enhancements to Marine Structures and Hard Sea Defences at Hartlepool Headland

Opportunity: Environmental enhancements to existing and future marine structures and hard sea defences eg creation of additional roosting sites for bird species and foraging opportunities. It must be noted that such opportunities do not negate the need for appropriate mitigation and / or compensation habitat to be provided as part of coastal defence schemes.

Delivery Mechanism: **Not SMP**

Recommended Delivery Initiative

Appropriately designed environmental enhancements that effectively utilise existing and future coastal defence structures

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	**Medium**	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Identification of specific enhancement opportunities associated with existing and future coastal protection and / or flood defence structures.
- Further examination of potential contribution to condition of SSSI's and priority BAP habitats and species.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s), proposed partnership opportunities and sources of funding.

Additional Information:

***1. Location*:** Land at Hartlepool Headland (*NGR NZ 530380*).

***2. Land Use*:** Existing sea defence structures.

***3. Links to other Initiatives*:** Hartlepool Headland Regeneration Project, Heritage Coast and Tees Valley Biodiversity Action Plan.

***4. Benefits*:**

- Creation of additional roosting sites for bird species and foraging opportunities. There are also potential educational opportunities associated with these projects.

***5. Constraints*:**

- The effect on the existing coastal defence structures and associated costs of implementing the projects.
- There are current proposals within the Hartlepool Headland draft strategy that would result in significant loss of SPA rocky shore.

***6. Proposed Lead Organisation*:** Hartlepool Borough Council.

***7. Proposed Project Partners*:** English Nature and local planning authority.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Tees and Hartlepool Foreshore and Wetland SSSI (Unit 1: Littoral sediment with associated flora and fauna). SSSI condition is favourable. Environmental enhancements associated with nearby coastal flood defence structures may contribute to the overall diversity of bird species roosting and breeding in this area. The site is also within the Teesmouth and Cleveland Coast SPA and Ramsar.

2. Potential contribution that could be made towards achieving national priority and/or local priority BAP targets:

The above site is important for breeding and non-breeding shorebirds. Opportunities to expand habitat area and breeding sites may contribute to maintenance or increases of existing bird populations.

13. Tyne to Tees Coastal Natural Area: Enhancements to Marine Structures and Hard Sea Defences at North Gare

Opportunity: Environmental enhancements to existing and future marine structures and hard sea defences eg creation of additional roosting sites for bird species and foraging opportunities. It must be noted that such opportunities do not negate the need for appropriate mitigation and/or compensation habitat to be provided as part of coastal defence schemes.

Delivery Mechanism: **Not SMP**

Recommended Delivery Initiative

Appropriately designed environmental enhancements that effectively utilise existing and future coastal defence structures

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	**Medium**	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Identification of specific enhancement opportunities associated with existing and future coastal protection and/or flood defence structures.
- Further examination of potential contribution to condition of SSSI's and priority BAP habitats and species.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s), proposed partnership opportunities and sources of funding.

Additional Information:

***1. Location*:** Land at North Gare (*NGR NZ 540285*).

***2. Land Use*:** Existing sea defence structures.

***3. Links to other Initiatives*:** Heritage Coast and Tees Valley Biodiversity Action Plan.

***4. Benefits*:**
- Creation of additional roosting sites for bird species and foraging opportunities. There are also potential educational opportunities associated with these projects.

***5. Constraints*:**
- The effect on the existing coastal defence structures and associated costs of implementing the projects.

***6. Proposed Lead Organisation*:** Redcar and Cleveland Borough Council.

***7. Proposed Project Partners*:** English Nature and local planning authority.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Seaton Dunes and Common (Unit 6: Supralittoral sediment). SSSI condition is favourable. Environmental enhancements associated with nearby coastal flood defence structures may contribute to the overall diversity of bird species roosting and breeding in this area.

2. Potential contribution that could be made towards achieving national priority and/or local priority BAP targets:

Opportunities to improve habitat diversity eg nesting islands with associated species eg breeding birds along this coastline may also contribute in part to achieving BAP targets and / or an overall increase in biodiversity.

Birds:
The above site is important for breeding and non-breeding shorebirds. Opportunities to expand habitat area and breeding sites may contribute to maintenance or increases of existing bird populations.

Part 2 – Saltburn to Bridlington Coastal Natural Area

1. Saltburn to Bridlington Coastal Natural Area: Maintenance of Soft Cliff Habitat between Filey and Reighton

Opportunity: Maintenance of soft cliff habitat between Filey and Reighton Sands eg the creation of buffer zones between the soft cliff and developments such as holiday parks to allow coast to erode and dynamic coastal processes to continue without future intervention.

Additional Information:

***1. Location*:** Filey to boundary of hard cliff at Reighton Sands (*NGR TA 120800 to NGR TA 150760)*.

***2. Land Use*:** Undefined, but a proportion of this area is used as holiday/caravan parks

***3. Links to other Initiatives*:** Countryside Stewardship Schemes eg recreation of semi- natural vegetation and other features such as ponds / springs. Planning policies eg future location of caravan and holiday parks.

***4. Benefits*:**

- Buffer zones will allow the continuation of natural coastal processes to occur at the cliff face resulting in the natural succession of coastal habitats including vegetation, ponds and habitats for protected species eg great crested newt.

***5. Constraints*:**

- Landowner agreement to leave coastal buffer zone in area of high value for tourism and recreation.

***6. Proposed Lead Organisation*:** No lead organisation has been identified at this stage.

***7. Proposed Project Partners*:** English Nature/ RDS (the new agency), Scarborough Borough Council, Holiday Park owners.

Delivery Mechanism: Through revision of existing SMP policy

Management Unit	Existing SMP Policy	Recommended SMP Policy
D28b Filey: Coble Landing to Eller Howe Haven.	Hold the line	**Do nothing (assuming assets can be moved landward in the longer term)**
D30b Reighton Sands: New Closes Cliff to King Rock	Hold the line	

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	**Long Term: 50 to 100 years**

Priority

High	Medium	Low	**High**

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Biodiversity audit is needed to enable prioritisation of sites for enhancement.
- The benefits creating buffer zones throughout this area and the impact on reducing the need for future new coastal protection measures or maintenance of existing coastal protection measures needs investigating in conjunction with identifying where 2005 SMP policy units and SMP policies may need revising.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Further examination of opportunities associated with amenity and recreation along coastline.
- Investigate further proposed lead organisation(s), proposed partnership opportunities and sources of funding.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

There are no areas of SSSI associated with this area.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Opportunities to improve and increase the extent of the area of semi-natural base-rich grassland habitat associated with the cliff-top along this length of coastline may contribute in part to achieving BAP targets and / or an overall increase in biodiversity (see below).

Maritime Cliff and Slope:
An area of mainly soft cliffs of sands and clays

Other flora and fauna interest:
Flora on the soft cliffs is a mosaic of grassland and scrub with ponds formed where the cliffs have slumped. The ponds have been colonized by aquatic and marginal plants and hold important populations of breeding great crested newts.

2. Saltburn to Bridlington Coastal Natural Area: Promoting semi-natural cliff-top habitat

Opportunity: modify agricultural land use to benefit biodiversity by increasing the extent of areas of existing semi-natural cliff-top habitat and potentially improve and/or increase the extent of access.

Delivery Mechanism: **Not SMP**

Recommended Delivery Initiative
revise land management to promote environmental enhancement ie through agri-environment schemes such as entry level or high level schemes.

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	**Long Term: 50 to 100 years**

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Desktop prioritisation of Natural Area coastline for phased approach to cliff-top habitat restoration via agri-environment schemes.
- Identification areas that are already in agri-environment schemes and potential opportunities for extension.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Further examination of opportunities associated with amenity and recreation along coastline.
- Further investigation into viability of long term changes to existing SMP policies, at least as part of new policy units.
- Review SMP policies on an iterative basis.
- Investigate further proposed lead organisation(s), proposed partnership opportunities and sources of funding.

Additional Information:

***1. Location*:** All cliff tops to be targeted throughout the Natural Area (*NGR NZ 670215 to TA 200687*).

***2. Land Use*:** The primary land use along this length of coastline landward of the existing cliff top habitat is arable production with some semi-natural habitat eg base-rich grasslands.

***3. Links to other Initiatives*:** Heritage Coast projects, National Trust Enterprise Neptune, Agri-Environment Schemes, Dinosaur Coast project and Cleveland Way project (Nortrail). Results are also available from Phase 1 Habitat Surveys, local knowledge and countryside audits. There are also various ad hoc surveys that have been carried out along this length of coastline (eg Buglife invertebrate survey), however there is no specific monitoring regime known to be in place at any point along the Coastal natural Area.

***4. Benefits*:**

- Increased area of semi-natural cliff top habitat and ultimately, reduce the impact and extent of 'coastal squeeze' ie in this case the loss of semi-natural habitat that is fixed between the eroding coastal margin and the fixed landward boundaries of agricultural fields that in some cases are expanding towards the cliff top edge.
- Potential benefits to farmers in becoming involved in agri-environment schemes.
- Potential opportunities to increase access for recreational purposes.

***5. Constraints*:**

- Impacts on landowners and existing land use ie modification of arable production.

***6. Proposed Lead Organisation*:** No lead organisation was identified at this stage.

***7. Proposed Project Partners*:** Defra, Rural Development Service, North York Moors National Park, the National Trust, Coastal Projects Unit and landowners.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Robin Hoods Bay SSSI, Maw Wyke to Beast Cliff (Unit 7: Earth Heritage). SSSI unit condition is Unfavourable no change due to inappropriate coastal management. Approximately one fifth of the cliff in this area has rock armour in front of it preventing the occurrence of natural coastal processes and ultimately the natural evolution of the coastline. The possibility of extending the cliff top habitat in the longer term will provide a 'buffer zone' and may negate the need for hard coastal defences in this area. This would allow natural coastal processes to occur and help restore the integrity of this earth heritage SSSI.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Opportunities to improve and increase the extent of the area of semi-natural base-rich grassland habitat associated with the cliff-top along this length of coastline may contribute in part to achieving BAP targets and / or an overall increase in biodiversity (see below).

Maritime Cliff and Slope:
Maintain the quality of coastal chalk habitats around Flamborugh Head and, the range of the characteristic plant and animal communities, (especially those characteristic of reefs, submerged and partly submerged sea caves), subject to natural change. Specific target: maintain 17.5 km by 2015.

Ensure that shoreline management plans promote policies, which will allow natural processes for the creation and maintenance of littoral/sublittoral chalk to operate, where practicable, and so sustain the area and quality of this habitat.

Adopt sustainable management practices for all users on littoral and sublittoral chalk habitats.

Flora and fauna:
Extensive habitat improvement and creation may benefit associated maritime cliff and slope biodiversity

If revised land management practices result in extended cliff top habitat and therefore resource, it may be possible to revise future SMP policies in certain areas along this length of coastline. For this reason, an additional table has been included here suggesting long term SMP policy revisions.

Management Unit	Existing SMP Policy	Recommended SMP Policy
2B, 7A, 9A, 9B, 9C, 11A, 11B, 16A, 16B, 16C, 20A, 20B, 21A, 21B, 22A, 22B, 28B.	Hold the line	**Do nothing (at least for part of unit) if not protecting urban settlements.**

3. Saltburn to Bridlington Coastal Natural Area: Landward Relocation of Assets between Scarborough and Filey

Opportunity: The biodiversity gain is linked to accommodating coastal change by ensuing planning provisions allow for assets that may be lost over the short to long term through erosion of the soft cliff face to relocate to more sustainable locations.

Delivery Mechanism: Not SMP

Recommended Delivery Initiative

Regional Spatial Strategies, Local Development Plans and effective land use planning.

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	**Long Term: 50 to 100 years**

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Desktop prioritisation of coastline for phased approach to relocation of cliff-top assets.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Further examination of opportunities associated with amenity and recreation along coastline.
- Further investigation into viability of long term changes to existing SMP policies, at least as part of new policy units.
- Review SMP policies on an iterative basis.
- Investigate further proposed lead organisation(s), proposed partnership opportunities and sources of funding.

If assets can be moved landward, it may be possible to revise one existing 'Hold the line' SMP policy along this length of coastline For this reason, the additional table above has been included here suggesting the long term SMP policy revision.

Management Unit	Existing SMP Policy	Recommended SMP Policy
D23 Wheatcroft (Holbeck Ravine to Knipe Point)	Hold the line	**Do nothing (at least for part of unit)**

Additional Information:

***1. Location*:** Various locations between Scarborough (*NGR TA 045870*) and Filey (*NGR TA 120810*).

***2. Land Use*:** Land use is a mixture of developed coast (residential, tourism and recreation) undeveloped coast (predominantly agricultural land and with some woodland).

***3. Links to other Initiatives*:** Local Development Framework, agri-environmental schemes, planning application and projects, access routes and infrastructure. In addition, information is available for a number of SSSIs along this stretch of coastline (eg Cayton, Cornelian and South Bays SSSI and Gristhorpe Bay and Redcliff SSSI). Data on erosion rates is also available from Local Planning Authorities. Scarborough Borough Council also undertakes monitoring of coastal slippage.

***4. Benefits*:**

- Planned replacement of important habitats (eg cliff-top grasslands). Improved access along the coast.
- The continuation of natural coastal processes to occur unimpeded where no defences currently exist.
- Integration of Regional Spatial Strategies and Local Development Plans into the SMP process (ie effective future land use planning within the vicinity of eroding cliffs).

***5. Constraints*:**

- Constraints include negotiations with landowners and property owners and willingness to relocate assets.

***6. Proposed Lead Organisation*:** Unitary Local Authorities depending on location of assets to be targeted.

***7. Proposed Project Partners*:** Landowners and Scarborough Borough Council (through the planning process)

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Cayton, Cornelian and South Bays SSSI (Units 1 and 4 Neutral Grassland, Unit 2 Supralittoral Rock, Unit 3 Earth Heritage); Gristhorpe Bay and Red Cliff SSSI (Units 1, 2 and 3 Earth Heritage); Filey Brigg SSSI (Units 1 and 2 Earth Heritage, Unit 3 Littoral Sediment). SSSI conditions are all favourable. At Filey Brigg SSSI there is a need for monitoring and modelling to see how continued erosion of the Brigg will impact on the SSSI.
North Bay to South Tollhouse Cliff SSSI is under threat from protection works to prevent rocks falling onto Marine Drive, there is a need to reconsider relocation of assets in the long term to ensure that the geological features remain exposed..

All the above sites have both biological (including botanical and ornithological) and geological (including sites of national importance) interest. Areas where assets are moved landward would reduce a future need to protect a coastline that is at present, largely undefended by coastal structures allowing natural coastal processes to continue evolving the coastline and ultimately, maintaining the favourable condition of these SSSI's

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Opportunities to improve and increase the extent of the area of semi-natural base-rich grassland habitat associated with the cliff-top along this length of coastline may contribute in part to achieving BAP targets and / or an overall increase in biodiversity (see below).

Maritime Cliff and Slope:
This is an area of Jurassaic mudstones and clays with an important fossil fauna and flora

Other flora and fauna interests:
The soft cliffs have a mosaic of grassland, woodland and flushed areas where springs emerge on the cliffs. The area is particularly important for invertebrates.

Saltburn to Bridlington Coastal Natural Area: 4. Signage and Interpretation Throughout the Natural Area

Opportunity: Opportunities exist to provide signage and interpretation along the entire coastline within the Saltburn to Bridlington Natural Area with regard to natural and industrial features.

Delivery Mechanism: **Not SMP**

Recommended Delivery Initiative
Individual organisations or partnerships are best placed to deliver this type of opportunity eg NEYGT, NYMNP, Dinosaur Coast Project

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	**Medium**	Low

Further Action Required:

- A phased approach to providing signage and interpretation needs developing with prioritisation of areas most in need.
- Appropriate negotiations with landowners.
- Further examination of opportunities associated with amenity and recreation along coastline.
- Investigate further proposed lead organisation(s), proposed partnership opportunities and sources of funding.

Additional Information:

***1. Location*:** Throughout the Saltburn to Bridlington Coastal Natural Area (*NGR NZ 670215 to NGR TA 200687*).

***2. Land Use*:** The primary land use along this length of coastline landward of the existing cliff top habitat is arable production with some semi-natural habitat eg base-rich grasslands.

***3. Links to other Initiatives*:** Existing tourist attractions that include the North East Yorkshire Geological Trails (geo-tourism) and the Dinosaur Coast (eco-tourism). In addition, there is a wide range of information available with regard to this area of coast from both academic institutions and industrial centres.

***4. Benefits*:**

- There are benefits to utilising an undervalued resource. The profile and awareness of geological and biodiversity will be raised and there would be a greater visitor numbers leading to benefits to local community. Correct management could safeguard sensitive areas.

***5. Constraints*:**

- There is the major constraint of cost and co-ordination due to variety of interested parties. There is the risk of overdoing benefits. Signs in the forest may not be acceptable and an alternative source of information may be needed eg a booklet.

***6. Proposed Lead Organisation*:** The National Trust.

***7. Proposed Project Partners*:** English Nature, North York Moors National Park, NEYGT, Environmental Heritage, English Heritage YGS and Dinosaur Coast Project.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

There are no opportunities to contribute to the maintenance or improvement of SSSI's in this Natural Area associated with signage and interpretation.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

There are no opportunities to contribute to priority HAP targets in this Natural Area associated with signage and interpretation.

Part 3 – Bridlington to Skegness Coastal Natural Area

1. Bridlington to Skegness Coastal Natural Area: Managed Realignment, Tunstall Drain

Opportunity: Managed realignment at Tunstall Drain with the creation of associated habitats eg saltmarsh, coastal and floodplain grazing marsh, reedbed.

Additional Information:

***1. Location*:** Land at Tunstall Drain (*NGR TA 319310*).

***2. Land Use*:** The present land use has not been identified at this stage.

***3. Links to other Initiatives*:** HECAG SMP, Water Framework Directive, ICZM (ERYC) including Rollback Project, Regional Spatial Strategy, Local Development Framework. In addition, the Environment Agency holds information with regard to flood defence. ERYC undertake coastal monitoring. Rollback project – ERYC report.

***4. Benefits*:**

- The potential to create areas of new habitat (including national priority BAP habitats) such as reedbed and saline lagoons and water vole habitat. New tourist attraction and nature reserve. Low maintenance costs with regard to future flood defences.

***5. Constraints*:**

- Planning permission (2003) has been given to construct a new coastal defence to protect caravan park access to beach and small sewage treatment plant. An Environment Agency defence is located immediately south of the proposed new defence. There are houses near to the B1242 road and there is potential high capital cost. Water quality will influence the type of habitat that can be created.

***6. Proposed Lead Organisation*:** The Environment Agency and ERYC.

***7. Proposed Project Partners*:** The SMP Group (HECAG), Parish Councils, Landowners, Caravan Parks, Yorkshire Wildlife Trust, South Holderness Countryside Society, RSPB, Ramblers Association, Internal Drainage Board.

Delivery Mechanism: Through revision of existing SMP policy

Management Unit	Existing SMP Policy	Recommended SMP Policy
8. Aldborough to Tunstall	Hold the line	**MANAGED REALIGNMENT**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not Specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Collate information with regard to existing land use at each proposed site.
- Topographical study of areas identified for managed realignment.
- Hydrological studies ie water source and quality of freshwater input.
- Identification of potential future policy units associated with any managed realignment opportunities.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.
- Projects within the next 10 years as the existing flood defence is under threat.
- Review SMP policy in 2005 or 2010 SMP review.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

There are no SSSIs in this area.

2. Potential contribution that could be made towards achieving national priority and/or local priority BAP targets:

Planned areas for managed realignment may provide opportunities to create new areas of saltmarsh, coastal and floodplain grazing marsh and reedbed habitat with associated species (eg breeding waders, water vole). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Saline Lagoons:
Consider opportunities for creating saline lagoons taking into account national guidance.

Saltmarsh:
No further net loss by creating 100ha/year for the period of the national BAP. Consider opportunities for creating new saltmarsh (where opportunities arise) to offset current losses due to coastal squeeze and erosion, taking into account national guidance.

Maintain the quality of the existing resource in terms of community and species diversity and, where necessary, restore the nature conservation interest through appropriate management. It will be desirable for some managed realignment sites to develop the full range of saltmarsh zonation, by 2015.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Reedbed:
Create 1,200ha of new reedbed on land of low nature conservation interest by 2010.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Bittern:
The creation of reedbed may be desirable to bittern depending on its design. This may contribute to all specific species targets (T1 to T7) (see www.ukbap.org.uk for further details).

Other Birds:
Any managed realignment opportunity would expand and diversify existing habitat with a potential increase the capacity for various species of birds eg waders.

2. Bridlington to Skegness Coastal Natural Area: Managed Realignment, Barmston (north)

Opportunity: Managed realignment at Barmston (north) with the creation of associated habitats eg saltmarsh, coastal and floodplain grazing marsh, reedbed.

Additional Information:

***1. Location*:** Land at Barmston (north) (*NGR TA 169600*).

***2. Land Use*:** The present land use has not been fully identified at this stage. The lowlying area is dominated by coastal vegetation, reedbed and arable land.

***3. Links to other Initiatives*:** HECAG SMP, Water Framework Directive, ICZM (ERYC) including Rollback Project, Regional Spatial Strategy, Local Development Framework. In addition, the Environment Agency holds information with regard to flood defence. ERYC undertake coastal monitoring . Rollback project – ERYC report.

***4. Benefits*:**

- The potential to create areas of new habitat (including national priority BAP habitats) such as reedbed and saline lagoons and water vole habitat. New tourist attraction and nature reserve.

5. Constraints:

- Water quality will influence the type of habitat that can be created.

***6. Proposed Lead Organisation*:** ERYC and Yorkshire Wildlife Trust.

***7. Proposed Project Partners*:** The SMP Group (HECAG), Parish Councils, Landowners, Caravan Parks, Yorkshire Wildlife Trust, RSPB, Ramblers Association, Internal Drainage Board.

Delivery Mechanism: Not through SMP

Management Unit	Existing SMP Policy	Recommended SMP Policy
3. Wilsthorpe/ Fraisthorpe	Do Nothing	**No active intervention**

Delivery Timescale

Short Term	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	**Low**	Not Specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Collate information with regard to existing land use at each proposed site.
- Topographical study of areas identified for habitat creation / enhancement.
- Hydrological studies ie water source and quality of freshwater input.
- Identification of potential future policy units associated with any managed realignment opportunities.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.
- Review SMP policy in 2005 or 2010 SMP review.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013). There are no SSSIs in this area.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment may provide opportunities to create new areas of saltmarsh, coastal and floodplain grazing marsh and reedbed habitat with associated species (eg breeding waders, water vole) All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Saline Lagoons:
Consider opportunities for creating saline lagoons taking into account national guidance.

Sand Dunes:
Protect the existing sand dune resource along the Holderness/Lincolnshire Coast from further losses (subject to natural change). Ensure that shoreline management plans promote policies that will allow natural processes for the creation and maintenance of dunes to operate, where practicable, and so sustain the area and quality of this habitat. Specific target: maintain 936 hectare(s) by 2010.

Saltmarsh:
No further net loss by creating 100ha/year for the period of the plan. Consider opportunities for creating new saltmarsh (where opportunities arise) to offset current losses due to coastal squeeze and erosion, taking into account national guidance. Maintain the quality of the existing resource in terms of community and species diversity and, where necessary, restore the nature conservation interest through appropriate management. It will be desirable for some managed realignment sites to develop the full range of saltmarsh zonation, by 2015.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Reedbed:
Create 1,200ha of new reedbed on land of low nature conservation interest by 2010.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

3. Bridlington to Skegness Coastal Natural Area: Managed Realignment, Barmston Drain (south)

Opportunity: Managed realignment at Barmston Drain (south) with the creation of associated habitats e.g reedbed and maritme cliff and slope

Delivery Mechanism: Through revision of existing SMP

Management Unit	Existing SMP Policy	Recommended SMP Policy
4. Barmston to Atwick	Hold the line	**Managed realignment**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not Specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Collate information with regard to existing land use at each proposed site.
- Topographical study of areas identified for managed realignment.
- Hydrological studies ie water source and quality of freshwater input.
- Identification of potential future policy units associated with any managed realignment opportunities.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.
- Identify appropriate engineering options to enable realignment.
- Review SMP policy in 2005 or 2010 SMP review.

Additional Information:

***1. Location*:** Land at Barmston Drain (south) (*NGR TA 173587*).

***2. Land Use*:** The present land use has not been fully identified at this stage. Surrounding land is arable, Barmston Main Drain discharges via tidal outfall protected by flood defences.

***3. Links to other Initiatives*:** HECAG SMP, Water Framework Directive, ICZM (ERYC) including Rollback Project, Regional Spatial Strategy, Local Development Framework. In addition, the Environment Agency holds information with regard to flood defence. ERYC undertake coastal monitoring. Rollback project – ERYC report.

***4. Benefits*:**

- The potential to create areas of new habitat (including national priority BAP habitats) such as reedbed and water vole habitat. Main benefit would be the removal of outfall (acting as groyne) to allow natural coastal processes to resume. New tourist attraction and small nature reserve. Low maintenance costs with regard to future flood defences.

***5. Constraints*:**

- Water quality will influence the type of habitat that can be created.

***6. Proposed Lead Organisation*:** The Environment Agency and ERYC.

***7. Proposed Project Partners*:** The SMP Group (HECAG), Parish Councils, Landowners, Caravan Parks, Yorkshire Wildlife Trust, RSPB, Ramblers Association, Internal Drainage Board.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

There are no SSSIs in this area.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment may provide opportunities to create new areas of saltmarsh, coastal and floodplain grazing marsh and reedbed habitat with associated species (eg breeding waders, water vole) and contribute in part to achieving BAP targets and / or an overall increase in biodiversity (see below). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Maritme Cliff and Slope:
Consider opportunities for creating areas of maritme cliff and slope taking into account national guidance.

Reedbed:
Create 1,200ha of new reedbed on land of low nature conservation interest by 2010.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Other conservation interest:
Any managed realignment opportunity would expand and diversify existing habitat with a potential increase the capacity for various species of birds

4. Bridlington to Skegness Coastal Natural Area: Managed Realignment – the Easington to Kilnsea Coastal Vision (Phase

Opportunity: This is a major vision to realign existing coastal defences within the vicinity of Easington and Kilnsea north of the Spurn Peninsula. Phase A: Managed realignment of the existing flood defences landward of the existing coastal lagoons.

Additional Information:

***1. Location*:** Phase A south of Easington on east coast (approximately *NGR TA 408185 to NGR TA 412168*).

***2. Land Use*:** Transitional grazing marsh, sand, saltmarsh and coastal lagoons. There are also nearby dwellings, farms, small villages and roads.

***3. Links to other Initiatives*:** HECAG SMP, Humber Estuary SMP, Regional Spatial Strategies, Local Development Frameworks, Spurn Heritage Coast Management Plan, ICZM, Humber Management Scheme, Regional Economic Strategy (green tourism), Transport and Rural Development Plans. In addition, there is Environment Agency information with reference to current flood defences, ERYC coastal monitoring and Southern North Sea Sediment Study. The existing SMP policy for the Humber SMP for phase A is to consider local realignment.

***4. Benefits*:**
- Potential to addresses coastal squeeze issues for the existing coastal lagoons and the Humber Estuary SPA and Ramsar site and The Lagoons SSSI.
- They also provide an opportunity to create large nature reserves in this area.
- There may be eco-tourism benefits.

***5. Constraints*:**
- Ongoing access to Kilnsea and Spurn including Associated British Ports facility and RLNI station will need to be addressed. Implications for people living and working in area and management of land. Community involvement will be an essential part of this process.
- Other constraints include funding of projects.

***6. Proposed Lead Organisation*:** The Environment Agency and ERYC.

***7. Proposed Project Partners*:** English Nature, RSPB, Yorkshire Wildlife Trust, the South Holderness Countryside Society and the local community.

Delivery Mechanism: Through revision of existing SMP policy

Management Unit	Existing SMP Policy	Recommended SMP Policy
12. Easington to Kilnsea	Do nothing where coastline is eroding. Local retreat or alternative management strategy along frontage where protection is required (time limited)	**MANAGED REALIGNMENT**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Identification of potential future policy units during SMP review 2005.
- Review SMP policies in 2005 SMP review.
- Investigation into the acceptability of creating new areas of coastal lagoon and intertidal habitat through a phased approach of managed realignment.
- Further examination of opportunity to contribute to the recovery of the Lagoon SSSI with regard to addressing the impact of coastal squeeze.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners and public participation exercises.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

The Lagoons SSSI (Units 1 and 2). SSSI condition is unfavourable declining due to coastal squeeze. Phase A would allow defences to be set back allowing the lagoons and associated habitat to be extended with the possibility for the creation of new lagoon habitat.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment may provide opportunities to improve existing lagoons and create new ones. In addition, areas of saltmarsh, grazing marsh and mudflat habitat with associated species (eg breeding waders, water vole). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones**.**

Saline Lagoons:
Consider opportunities for creating saline lagoons taking into account national guidance.

Sand Dunes:
Protect the existing sand dune resource along the Holderness/Lincolnshire Coast from further losses (subject to natural change). Ensure that shoreline management plans promote policies that will allow natural processes for the creation and maintenance of dunes to operate, where practicable, and so sustain the area and quality of this habitat. Specific target: maintain 936 hectare(s) by 2010.

Saltmarsh:
No further net loss by creating 100ha/year for the period of the national BAP.

Consider opportunities for creating new saltmarsh (where opportunities arise) to offset current losses due to coastal squeeze and erosion, taking into account national guidance.

Maintain the quality of the existing resource in terms of community and species diversity and, where necessary, restore the nature conservation interest through appropriate management. It will be desirable for some managed realignment sites to develop the full range of saltmarsh zonation, by 2015.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Mudflats:
Maintain and safeguard current extent of intertidal mudflats. Adopt sustainable management practices for all uses of intertidal habitats (Ongoing). Specific target: maintain 5000 hectare(s) by 2015. Consider opportunities for creating new areas of mudflats to offset predicted losses, taking into account national guidance. Promote the managed retreat option to provide new areas of intertidal habitat, in particular mudflats and saltmarsh) which will be of value to birds. Link to saltmarsh and grazing marsh HAP targets.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Birds:
Any managed realignment opportunity would expand and diversify the existing habitats with a potential increase in the capacity for various species of breeding, migrating and roosting birds eg little tern and ringed plover (breeding) and dunlin, redshank, dark-bellied brent goose (feeding / roosting).

5. Bridlington to Skegness Coastal Natural Area: Managed Realignment – the Easington to Kilnsea Coastal Vision (Phase B)

Opportunity: This is a major vision to realign existing coastal defences within the vicinity of Easington and Kilnsea north of the Spurn Peninsula.
Phase B: Localised flood defence measures and creation of intertidal habitats and coastal habitats including saline lagoons and grazing marsh.

Delivery Mechanism: **Through revision of existing SMP policy**

Management Unit	Existing SMP Policy	Recommended SMP Policy
12. Easington to Kilnsea	Do nothing where coastline is eroding. Local retreat or alternative management strategy along frontage where protection is required (time limited)	**MANAGED REALIGNMENT**

Delivery Timescale

Short Term: 0 to 20 years	**Medium Term: 20 to 50 years**	Long Term: 50 to 100 years

Priority

High	**Medium**	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Identification of potential future policy units during SMP review 2005.
- Review SMP policies in 2005 SMP review.
- Investigation into the acceptability of creating new areas of intertidal habitat through a phased approach of managed realignment.
- Appropriate negotiations with landowners and public participation exercises.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Additional Information:

***1. Location*:** Phase B, *Long Bank Marshes (NGR TA 404166) and Blue Bell Fields (NGR TA 418155).*

***2. Land Use*:** Transitional grazing marsh, coastal grasslands and small coastal lagoons. There are also nearby dwellings, farms, small villages and roads.

***3. Links to other Initiatives*:** HECAG SMP, Humber Estuary SMP, Regional Spatial Strategies, Local Development Frameworks, Spurn Heritage Coast Management Plan, ICZM, Humber Management Scheme, Regional Economic Strategy (green tourism), Transport and Rural Development Plans. In addition, there is Environment Agency information with reference to current flood defences, ERYC coastal monitoring and Southern North Sea Sediment Study. The existing SMP policy for the Humber SMP for phase B is to consider local realignment.

***4. Benefits*:**
- Potential to addresses coastal squeeze issues for the existing coastal lagoons and the Humber Estuary, pSAC, SPA and SSSI.
- They also provide an opportunity to create large nature reserves in this area.
- There may be eco-tourism benefits.

***5. Constraints*:**
- Access to Kilnsea and Spurn including Associated British Ports facility and RLNI station will need to be addressed. Community involvement will be an essential part of this process.
- Other constraints include funding of projects.

***6. Proposed Lead Organisation*:** The Environment Agency and ERYC.

***7. Proposed Project Partners*:** English Nature, RSPB, Yorkshire Wildlife Trust, the South Holderness Countryside Society and the local community.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Humber Estuary SSSI (Unit 155 – Littoral sediment and units 159, 160 to 162 and 164 – Fen, Marsh and Swamp). Realignment would allow mudflats, saltmarsh and coastal lagoons to be created, areas of existing coastal habitats to develop and maintenance of sediment sources due to habitat creation projects. This coastal area is also part of the Humber Estuary SPA, pSAC and Ramsar site.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment may provide opportunities to improve existing lagoons and create new ones. In addition, areas of saltmarsh, grazing marsh and mudflat habitat with associated species (eg breeding waders, water vole). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Saline Lagoons:
Consider opportunities for creating saline lagoons taking into account national guidance.

Saltmarsh:
No further net loss by creating 100ha/year for the period of the national BAP.

Consider opportunities for creating new saltmarsh (where opportunities arise) to offset current losses due to coastal squeeze and erosion, taking into account national guidance.

Maintain the quality of the existing resource in terms of community and species diversity and, where necessary, restore the nature conservation interest through appropriate management. It will be desirable for some managed realignment sites to develop the full range of saltmarsh zonation, by 2015.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Mudflats:
Maintain and safeguard current extent of intertidal mudflats. Adopt sustainable management practices for all uses of intertidal habitats (Ongoing). Specific target: maintain 5000 hectare(s) by 2015.

Consider opportunities for creating new areas of mudflats to offset predicted losses, taking into account national guidance. Promote the managed retreat option to provide new areas of intertidal habitat.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Other conservation interest:
Any managed realignment opportunity would expand and diversify the existing habitats with a potential increase in the capacity for various species of breeding, migrating and roosting birds.

6. Bridlington to Skegness Coastal Natural Area: Managed Realignment – the Easington to Kilnsea Coastal Vision (Phase C)

Opportunity: This is a major vision to realign existing coastal defences within the vicinity of Easington and Kilnsea north of the Spurn Peninsula.
Phase C: Managed realignment of defences and creation of intertidal habitats and coastal habitats including saline lagoons and grazing marsh.

Additional Information:

***1. Location*:** Phase C new coastal defences from west to east immediately south of Easington (approximately *NGR TA 390185 to NGR TA 404185)*

***2. Land Use*:** Transitional grazing marsh, sand, saltmarsh and coastal lagoons. There are also nearby dwellings, farms small villages and roads.

***3. Links to other Initiatives*:** HECAG SMP, Humber Estuary SMP, Regional Spatial Strategies, Local Development Frameworks, Spurn Heritage Coast Management Plan, ICZM, Humber Management Scheme, Regional Economic Strategy (green tourism), Transport and Rural Development Plans. In addition, there is Environment Agency information with reference to current flood defences, ERYC coastal monitoring and Southern North Sea Sediment Study.

***4. Benefits*:**
- Potential to addresses coastal squeeze issues for the existing coastal lagoons and the Humber Estuary, pSAC, SPA and SSSI.
- They also provide an opportunity to create large nature reserves in this area.
- There may be eco-tourism benefits.

***5. Constraints*:**
- Ongoing access to Kilnsea and Spurn including Associated British Ports facility and RLNI station will need to be addressed. Implications for people living and working in area and management of land. Community involvement will be an essential part of this process.
- Other constraints include funding of projects.

***6. Proposed Lead Organisation*:** The Environment Agency and ERYC.

***7. Proposed Project Partners*:** English Nature, RSPB, Yorkshire Wildlife Trust, the South Holderness Countryside Society and the local community.

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Delivery Mechanism: Through revision of existing SMP policy

Management Unit	Existing SMP Policy	Recommended SMP Policy
12. Easington to Kilnsea	Do nothing where coastline is eroding. Local retreat or alternative management strategy along frontage where protection is required (time limited)	**MANAGED REALIGNMENT**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	**Long Term: 50 to 100 years**

Priority

High	Medium	**Low**	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Identification of potential future policy units during SMP review 2005.
- Review SMP policies in 2005 SMP review.
- Investigation into the acceptability of creating new areas of intertidal habitat through a phased approach of managed realignment.
- Investigate whether Phase C managed realignment could contribute to recovery of Humber Estuary SSSI (units 157, 158, 159 and 160).
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners and public participation exercises.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Humber Estuary SSSI (Unit 155 – Littoral sediment and units 157, 158, 159, 160 to 162 and 164 – Fen, Marsh and Swamp). Realignment would allow mudflats to be created, areas of existing coastal habitats to develop and maintenance of sediment sources due to habitat creation projects. This coastal area is also part of the Humber Estuary SPA, pSAC and Ramsar site.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment may provide opportunities to improve existing lagoons and create new ones. In addition, areas of saltmarsh, grazing marsh and mudflat habitat with associated species (eg breeding waders, water vole). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Saline Lagoons:
Consider opportunities for creating saline lagoons taking into account national guidance.

Saltmarsh:
No further net loss by creating 100ha/year for the period of the national BAP.

Consider opportunities for creating new saltmarsh (where opportunities arise) to offset current losses due to coastal squeeze and erosion, taking into account national guidance.

Maintain the quality of the existing resource in terms of community and species diversity and, where necessary, restore the nature conservation interest through appropriate management. It will be desirable for some managed realignment sites to develop the full range of saltmarsh zonation, by 2015.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Mudflats:
Maintain and safeguard current extent of intertidal mudflats. Adopt sustainable management practices for all uses of intertidal habitats (Ongoing). Specific target: maintain 5000 hectare(s) by 2015.

Consider opportunities for creating new areas of mudflats to offset predicted losses, taking into account national guidance. Promote the managed retreat option to provide new areas of intertidal habitat, in particular mudflats and saltmarsh) which will be of value to birds. Link to saltmarsh and grazing marsh HAP targets.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Other conservation interest:
Any managed realignment opportunity would expand and diversify the existing habitats with a potential increase in the capacity for various species of breeding, migrating and roosting birds.

7. Bridlington to Skegness Coastal Natural Area: Coastal Habitats between Grimsby and Cleethorpes

Opportunity: The dynamic process of accretion may be resulting in the natural gain of new mud flats and sand banks/flats and other coastal habitats between Grimsby and Cleethorpes.

Additional Information:

***1. Location*:** Area of coast between Grimsby (*NGR TA 270114*) and Cleethorpes (*NGR TA 302097*).

***2. Land Use*:** The coastal land use here is predominantly residential, commercial and industrial.

***3. Links to other Initiatives*:** No other initiatives were identified. However, worthy of note is the fact that the coastline within this area is already naturally accreting resulting in the development of a sandbank/bar parallel to the shoreline with local areas of mud accretion. The Environment Agency holds data on beach profiles.

***4. Benefits*:**
- Natural driver with potential multiple ecological benefits including the creation of priority habitats such as sand flats and saltmarsh.

***5. Constraints*:**
- Coastal development and existing land use in this area.
- Limited knowledge of quantified changes in habitat extent or position of low-water mark.

***6. Proposed Lead Organisation*:** No lead organisation has been identified at this stage.

***7. Proposed Project Partners*:** No lead organisation has been identified at this stage.

Delivery Mechanism: Through revision of existing SMP

Management Unit	Existing SMP Policy	Recommended SMP Policy
17 Grimsby to Cleethorpes	Hold the line	**NO CHANGE**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Identification of potential future policy units associated with this section of coastline.
- Further examination of opportunity to contribute to halt the decline of the Humber Estuary SSSI (unit 84) due to coastal squeeze.
- Quantification of potential area of priority BAP habitat types that could be created through natural processes.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.
- Requires better understanding of whether sea level rise may exceed accretion in the long-term.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

SMP policies that allow the continuation of natural coastal processes to occur (in this case accretion of coastal sediments) may eventually result in the expansion of the area of coastal littoral sediment.

2. Potential contribution that could be made towards achieving national priority and/or local priority BAP targets:

Allowing coastal processes to naturally occur eg accretion will potentially lead to an increase in the area of mudflats and sandbanks with associated species (eg breeding and roosting shoreline birds and waders). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Mudflats:
Maintain and safeguard current extent of intertidal mudflats. Adopt sustainable management practices for all uses of intertidal habitats (Ongoing). Specific target: maintain 5000 hectare(s) by 2015.

Note that mudflats may undergo succession to saltmarsh if sediments accrete vertically.

Other conservation interests:
This opportunity would expand and diversify existing habitat with a potential increase the capacity for various species of breeding, migratory and roosting birds.

8. Bridlington to Skegness Coastal Natural Area: Lincolnshire's Marsh Project 100 Year Vision

Opportunity: To provide extensively managed grazing marsh and saltmarsh habitats throughout north Lincolnshire.

Additional Information:

***1. Location*:** Area of land east of the A1301 between Humberston Fitties (*NGR TA 330052*) and Saltfleet (*NGR TF 438984*).

***2. Land Use*:** Low lying, predominantly arable land with sparse settlements.

***3. Links to other Initiatives*:** The Humber Estuary SMP (realignment at Donna Nook), the Lincolnshire Grazing Marsh Project, the Anglian Region Habitat Programme, tourism agri-environment schemes, Water Level Management Plans, the Louth Canal restoration project and links to compensation duties under the Habitat Regulations. This area is known to have a high water table. It includes a redundant military airbase at RAF North Coates, part of which has been sold. The Lincolnshire Coastal Audit maybe useful.

***4. Benefits*:**
***Potential benefits identified*:**

- The main benefits are for biodiversity through the creation of large areas of grazing marsh and potentially saltmarsh adjacent to the coast. Potential to be of international significance (SPA etc.).
- Regeneration potential to Lincolnshire eg economic / social / environmental.

***5. Constraints*:**

- Front ended funding is required, local community support, the extant biodiversity interest, little data is currently available.

***6. Proposed Lead Organisation*:** The Lincolnshire Grazing Marsh Project will act as a catalyst. Future partners include Regional Government and various Agencies, the Ministry of Defence, Voluntary Conservation Organisations.

***7. Proposed Project Partners*:** Partners may include Regional Government and various Agencies, the Ministry of Defence and Voluntary Conservation Organisations.

Delivery Mechanism: Through revision of existing SMP policy

Management Unit	Existing SMP Policy	Recommended SMP Policy
Unit 18 Humberston to Donna Nook	Hold the line	**Managed retreat**
Unit 1 Donna Nook	Hold the line	

Delivery Timescale

Short Term: 0 to 20 years	**Medium Term: 20 to 50 years**	**Long Term: 50 to 100 years**

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Start project now for delivery in 2100.
- Review SMP policies between 2025 and 2055.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.
- Identification of potential future policy units associated with any managed realignment opportunities.
- Investigation into the acceptability of creating new areas of intertidal habitat through a phased approach of managed realignment over the longer term that extends some distance inland.
- Quantification of potential area of priority BAP habitat types that could be created.
- Major promotional campaign required to explain benefits
- Promotion of agir-environment schemes to support biodiversity benefits.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Humber Estuary SSSI (Unit 165 – Supralittoral sediment, units 166 to 169 – Littoral sediment).
Saltfleetby and Theddlethorpe Dunes SSSI (and NNR) (units 1 and 2 Littoral sediment). SSSI condition is favourable. Opportunities to create large areas of saltmarsh and coastal and floodplain grazing marsh exist, although they are unlikely to make a positive contribution in the near future.

2. Potential contribution that could be made towards achieving national priority and / or local priority HAP targets:

Planned areas for managed realignment may provide opportunities to create new areas of saltmarsh and coastal and floodplain grazing marsh habitat with associated species (eg breeding waders, water vole). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Saltmarsh:
No further net loss by creating 100ha/year for the period of the plan.

Consider opportunities for creating new saltmarsh (where opportunities arise) to offset current losses due to coastal squeeze and erosion, taking into account national guidance.

Maintain the quality of the existing resource in terms of community and species diversity and, where necessary, restore the nature conservation interest through appropriate management. It will be desirable for some managed realignment sites to develop the full range of saltmarsh zonation, by 2015.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Marsh moth:
Maintain populations at all known sites.

Enhance the population size at all known sites by 2010.

Restore a self-sustaining population to at least one site by 2010

Natterjack toad:
Maintain the size of all existing populations at known or presumed 1995 levels.

Where appropriate, restore each population to its size in the 1970's.

Other conservation interests:
Any managed realignment opportunity would expand and diversify existing habitat with a potential increase the capacity for various species of breeding, migratory and roosting birds eg waders.

9. Bridlington to Skegness Coastal Natural Area: Managed Realignment between Tetney and Donna Nook

Opportunity: The managed realignment in the area of Tetney Marshes to Donna Nook with associated enhancement of intertidal and wet grassland habitats.

Additional Information:

***1. Location*:** Area of land east of Tetney Marsh (*NGR TA 360034*).

***2. Land Use*:** Three arable fields (estimated 75 to 100 hectares).

***3. Links to other Initiatives*:** There are links to the Humber Estuary/North Lincolnshire Coast SMP, sustainable tourism initiatives and local and national Biodiversity Action Plans. In addition, there is current data concerning the 1980s reclamation and potentially information with the Environment Agency. The area may have also been considered in the Humber Estuary SMP and in sustainable tourism initiatives and local / national Biodiversity Action Plans. There is also a proposed realignment at Pye's Hall (north of Donna Nook) TA 410003 as part of the Humber strategy.

***4. Benefits*:**
- This opportunity could be seen as a win-win situation with the creation of new priority habitats such as saltmarsh.

***5. Constraints*:**
- Successful development of a partnership approach will be critical for realisation of this proposal;
- Low priority area for flood alleviation.
- Land ownership issues

***6. Proposed Lead Organisation*:** The Environment Agency and Voluntary Conservation Organisations are best placed to lead.

***7. Proposed Project Partners*:** English Nature.

Delivery Mechanism: **Through revision of existing SMP policy**

Management Unit	Existing SMP Policy	Recommended SMP Policy
18 Humberston to Donna Nook	Hold the line	**RETREAT THE EXISTING LINE (part of unit only)**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Identification of potential future policy units associated with managed realignment opportunity.
- Investigation into the acceptability of creating new areas of intertidal habitat and realigning flood defences in this area.
- Quantification of potential area of priority BAP habitat types that could be created.
- Negotiations with landowners and key stakeholders.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Humber Estuary SSSI (Unit 168 – Littoral Sediment). SSSI condition unfavourable recovering. Previous damage to a small area of saltmarsh habitat is now naturally regenerating. Potential realignment opportunities may lead to an expansion of this habitat, although the opportunities to actually speed up naturally occurring regeneration processes are likely to be limited.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for managed realignment may provide opportunities to create new areas of saltmarsh and coastal and floodplain grazing marsh habitat with associated species (eg breeding waders, water vole). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Saltmarsh:
No further net loss by creating 100ha/year for the period of the plan.

Consider opportunities for creating new saltmarsh (where opportunities arise) to offset current losses due to coastal squeeze and erosion, taking into account national guidance.

Maintain the quality of the existing resource in terms of community and species diversity and, where necessary, restore the nature conservation interest through appropriate management. It will be desirable for some managed realignment sites to develop the full range of saltmarsh zonation, by 2015.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Marsh moth:
Maintain populations at all known sites.

Enhance the population size at all known sites by 2010.

Restore a self-sustaining population to at least one site by 2010

Natterjack toad:
Maintain the size of all existing populations at known or presumed 1995 levels. Where appropriate, restore each population to its size in the 1970's.

Other conservation interests:
Any managed realignment opportunity would expand and diversify existing habitat with a potential increase the capacity for various species of breeding, migratory and roosting birds eg waders.

10. Bridlington to Skegness Coastal Natural Area: Saltmarsh development at Cleethorpes

Opportunity: The dynamic process of accretion is already resulting in the natural gain of saltmarsh at Cleethorpes and other associated coastal habitats.

Delivery Mechanism: Through revision of existing SMP policy

Management Unit	Existing SMP Policy	Recommended SMP Policy
17 Grimsby and Cleethorpes	Hold the line	**NO ACTIVE INTERVENTION**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Identification of potential future policy units associated with this section of coastline.
- Further examination of whether accretion rates would increase (increasing area of new habitat) with a change in policy to do nothing over the longer term as opposed to the 'hold the line' existing policy.
- Quantification of potential area of priority BAP habitat types that could be created through natural processes.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.
- Requires better understanding of whether sea level rise will exceed accretion in the long-term.

Additional Information:

***1. Location*:** Area of land at Cleethorpes between Wonderland Groyne (*NGR TA 304097*) and the Leisure Centre (*NGR TA 329062*).

***2. Land Use*:** The existing land use in this area has not been identified at this stage.

***3. Links to other Initiatives*:** There are links to the Environmental Tourism Feasibility Study between Mapleforth to Tetney, the North East Lincolnshire tourism strategy, the Community Strategy and the North East Lincolnshire and UK Biodiversity Action Plans. In addition, it is known that the coastline within this area is accreting. There is the natural development of a sandbank / bar parallel to the shoreline and local areas of mud accretion. The area is currently monitored by fixed-point photography, GPS and aerial photographs. Important SPA feeding area for birds. Important leisure beaches including sunken forest interest.

***4. Benefits*:**
- Natural driver with potential multiple ecological benefits including the creation of priority habitats including saltmarsh and the potential for cod recovery with regard to new offshore habitats through accretion of sediments.
- Likely to be economically viable (potential for EU funding).

***5. Constraints*:**
- Adverse impacts on tourism (including economic impacts), political will and public support. Very political and change of culture required.
- Lack of data on movement of low water mark.

***6. Proposed Lead Organisation*:** This would be a joint project for North East Lincolnshire and English Nature, plus key stakeholders including the tourism industry.

***7. Proposed Project Partners*:** Key stakeholders including the tourism industry.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Humber Estuary SSSI (Unit 174 – Littoral Sediment). SSSI condition is favourable. However, there are potential future conflicts between the accreting mud and development of saltmarsh and impacts on tourism ie it is considered that tourists may not find this area of beach attractive.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Allowing coastal processes to naturally occur eg accretion will potentially lead to an increase in the area of mudflats and successional stages of saltmarsh with associated species (eg breeding and roosting shoreline birds and waders). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Saltmarsh:
No further net loss by creating 100ha/year for the period of the plan.

Consider opportunities for creating new saltmarsh (where opportunities arise) to offset current losses due to coastal squeeze and erosion, taking into account national guidance.

Maintain the quality of the existing resource in terms of community and species diversity and, where necessary, restore the nature conservation interest through appropriate management. It will be desirable for some managed realignment sites to develop the full range of saltmarsh zonation, by 2015.

Mudflats:
Maintain and safeguard current extent of intertidal mudflats. Adopt sustainable management practices for all uses of intertidal habitats (Ongoing). Specific target: maintain 5000 hectare(s) by 2015.

Other conservation interest:
A naturally accreting and evolving coastline may lead to an expansion and increased diversity of existing habitats with a potential increase the capacity for various species of breeding, migratory and roosting birds eg waders.

11. Bridlington to Skegness Coastal Natural Area: Habitat creation between Saltfleet and Mablethorpe

Opportunity: Potential for the creation of wet grassland.

Additional Information:

***1. Location*:** Area of land between Saltfleet (*NGR TA 458935*) and Mablethorpe (*NGR TA 493872*). Could also extend to include the Skidbrooke stretch of coast (up to TF445958).

***2. Land Use*:** Predominantly arable with small settlements.

***3. Links to other Initiatives*:** Grazing marsh project, eco-tourism and habitat losses in the southeast. In addition, there is data available on Lincolnshire grazing marsh data eg ditch surveys, National Nature Reserve monitoring and results of the coastal audit. CDs of FWAG maps are also available.

***4. Benefits*:**
- There are likely benefits for tourism, Biodiversity Action Plans and the local food industry. It will also act as a NNR buffer.

***5. Constraints*:**
- The main constraints will be landowners, existing land drainage practices, the cost of agri-environment schemes and the flood management infrastructure.
- New grazing marsh habitat must not be a constraint to SMP policy development in future.

***6. Proposed Lead Organisation*:** Environment Agency

***7. Proposed Project Partners*:** Rural Development Service, Internal Drainage Board, English Nature, the Lincolnshire Wildlife Trust and FWAG.

Delivery Mechanism: Through revision of existing SMP policy (on part of site

Recommended delivery
Agri environment and land schemes to help promote coastal wetlands.

Management Unit	Existing SMP Policy	Recommended SMP Policy
Unit 2	Do nothing	NO CHANGE
Unit 3	Hold the line	**RETREAT THE EXISTING LINE (.at least part of the existing unit)**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Further examination of links with grazing marsh project outside boundary of Natural Area.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s) and proposed partnership opportunities.
- Identify new and existing agri-environment schemes to promote open access and low-intensity agricultural practices

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Saltfleetby and Theddlethorpe Dunes SSSI (units 1 and 2) (and NNR). SSSI condition is favourable. No opportunities have been identified to maintain the status of this designated site. However, the potential to create extensive areas of coastal and floodplain grazing marsh will contribute to the overall landscape diversity of habitats within this region.

2. Potential contribution that could be made towards achieving national priority and / or local priority BAP targets:

Planned areas for habitat creation may provide opportunities to create coastal and floodplain grazing marsh habitat with associated species (eg breeding waders, water vole). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

There is the potential to create significant areas of coastal and floodplain-grazing marsh over the next 50 plus years that could make a significant contribution to expansions targets associated with this habitat.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Marsh moth:
Maintain populations at all known sites.

Enhance the population size at all known sites by 2010.

Restore a self-sustaining population to at least one site by 2010

Natterjack toad:
Maintain the size of all existing populations at known or presumed 1995 levels. Where appropriate, restore each population to its size in the 1970's.

Other conservation interests:
Any habitat creation opportunity would expand and diversify existing habitat with a potential increase the capacity for various species of breeding, migratory and roosting birds eg waders.

12. Bridlington to Skegness Coastal Natural Area: Fitties Lagoons at Humberston Fitties

Opportunity: Potential to realign the defences in this area to create and expand the existing coastal habitats eg saltmarsh and saline lagoons.

Additional Information:

***1. Location*:** Area of land at Tetney RSPB Reserve landward of the existing flood defences (*NGR TA 337049*).

***2. Land Use*:** Nature reserve with existing saline lagoons with unit 169 of the Humber Estuary SSSI. Land behind the existing flood defences is arable.

***3. Links to other Initiatives*:** There are links to Tourism Strategies and National and Local Biodiversity Action Plans. In addition, we know that this is the third best saline lagoon in the UK. The area is currently under sympathetic management, however the existing lagoon is likely to be lost through natural processes ie siltation. Monitoring is undertaken by the RSPB / North East Lincolnshire Council. There are bird counts, water quality and invertebrate studies. Also links to Louth Coastal Catchment Plan & Louth Canal restoration project.

***4. Benefits*:**
- The main benefit will be the creation and expansion of a scarce and priority habitat that is likely to be lost and the potential creation of additional habitatsm on arable land associated with realigning the defences.

***5. Constraints*:**
- The constraints include engineering complexities, economic viability and uncertainty over probability of success and possible loss of existing habitat at site of new lagoon.
- An alternative mechanism might be to use a sluice to allow creation of saline lagoons behind the current sea wall.

***6. Proposed Lead Organisation*:** The RSPB.

***7. Proposed Project Partners*:** English Nature, LBAPs and landowners.

Delivery Mechanism: Through revision of existing SMP policy

Management Unit	Existing SMP Policy	Recommended SMP Policy
18 Humberston to Donna Nook	Hold the line	**MANAGED REALIGNMENT**

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure appropriate SMP policies are promoted:

- Appropriate negotiations with landowners.
- Investigate further proposed lead organisation(s), proposed partnership opportunities and sources of funding.
- Research study into the benefits a managed realignment project could have on the existing reserve.
- Quantification of potential area of priority BAP habitat types that could be created.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Humber Estuary SSSI (Unit 169 – Littoral sediment). SSSI condition is favourable. This site is important for the saline lagoons and associated invertebrate fauna. However, there is a potential threat from seasonal dilution of Humber seawater (winter), a lack of connectivity between saline lagoons and pools to the sea and siltation of the existing lagoons. A managed realignment project may provide opportunities to at least address some of these potential future threats ie by creating new saline lagoons with channels to the sea.

2. Potential contribution that could be made towards achieving national priority and/or local priority BAP targets:

Planned areas for managed realignment may provide opportunities to improve existing lagoons create new ones with additional areas of saltmarsh and coastal and floodplain grazing marsh habitat and associated species (eg breeding waders, water vole). All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Saline Lagoons:
Maintain and enhance the existing lagoons on RSPB reserve at Tetney.

Consider opportunities for creating saline lagoons taking into account national guidance.

Saltmarsh:
No further net loss by creating 100ha/year for the period of the plan.

Consider opportunities for creating new saltmarsh (where opportunities arise) to offset current losses due to coastal squeeze and erosion, taking into account national guidance.

Maintain the quality of the existing resource in terms of community and species diversity and, where necessary, restore the nature conservation interest through appropriate management. It will be desirable for some managed realignment sites to develop the full range of saltmarsh zonation, by 2015.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Other conservation interests:
Any managed realignment opportunity would expand and diversify existing habitat with a potential increase the capacity for various species of breeding, migratory and roosting birds.

13. Bridlington to Skegness Coastal Natural Area: Undeveloped Land between Sandilands and Chapel Point

Opportunity: Maintain the last stretch of undeveloped coast between Skegness and Mablethorpe. This is a strip of undeveloped land between the dunes and existing medieval sea bank inland with various SSSIs and wildlife sites that has the potential to provide habitats such as coastal and floodplain grazing marsh and reedbed.

Delivery Mechanism: **Not SMP**

Recommended Delivery Initiative
Local Development Frameworks and agri-environment schemes to help promote biodiversity on the coast.

Delivery Timescale

Short Term: 0 to 20 years	Medium Term: 20 to 50 years	Long Term: 50 to 100 years

Priority

High	Medium	Low	Not specified

Further action required by environmental interest and key stakeholder groups to ensure implementation of opportunity:

- Identification of areas that are already in agri-environment schemes and potential opportunities for extension.
- Quantification of potential area of priority BAP habitat types that could be created.
- Appropriate negotiations with landowners.
- Further examination of opportunities associated with amenity and recreation along coastline.
- Investigate further proposed lead organisation(s), proposed partnership opportunities and sources of funding.
- Provide advice to inform Local Development Frameworks to support environmental enhancement initatives.

Additional Information:

***1. Location*:** Area of land between Sandilands (*NGR TA 530805*) and Chapel Point (*NGR TA 560736*)

***2. Land Use*:** The land within this area is predominantly arable.

***3. Links to other Initiatives*:** The Lincolnshire grazing marsh initiative and the Lincolnshire tourism strategy. There is also information available about land ownership and existing agri-environment schemes.

***4. Benefits*:**
- The protection and maintenance (and possibly enhancement) of a continuous broad strip of semi-natural habitat. Sand dunes could 'roll back'.
- There is the potential for the creation of saline lagoons and grazing marsh. Bitterns are in the clay pits now – reedbed extension.

***5. Constraints*:**
- Pressure for future development of this area development eg Anderby Creek development and other development aspirations for a marina and more caravan sites.
- Partnership approach is essential and will take time and resources to develop.
- The strip of land carries the minor coast road.

***6. Proposed Lead Organisation*:** Lincolnshire Wildlife Trust, Lincolnshire County Council and English Nature will lead.

***7. Proposed Project Partners*:** East Lindsey District Council, Environment Agency and Lindsey Marshes Drainage Board.

Biodiversity and Geodiversity Gain:

1. Potential contribution to achieving PSA targets (ie 95% of SSSIs in favourable condition by 2013).

Sea Bank Clay Pit SSSI (unit 3 – fen, marsh and swamp). SSSI condition is unfavourable no change. The existing reedbed has become too dry. The opportunity to change the existing management of this area of land through purchase or agri-environment schemes would provide an excellent opportunity for habitat restoration and possibly expansion, particularly with regard to reedbed and coastal and floodplain grazing marsh.

2. Potential contribution that could be made towards achieving national priority and/or local priority BAP targets:

All targets noted are derived from the relevant national habitats and species Biodiversity Action Plans. Any creation of habitats or increase in numbers of species will contribute to the national targets as well as any local/regional ones.

Grazing marsh:
Begin creating 2,500ha of grazing marsh from arable land.

Reedbed:
Create 1,200ha of new reedbed on land of low nature conservation interest by 2010.

Water vole:
Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010. Ditch systems associated with grazing marsh would provide extensive lengths of continuous habitat.

Bittern:
The creation of reedbed may be desirable to bittern depending on its design. This may contribute to all specific species targets (T1 to T7) (see www.ukbap.org.uk for further details).

Other conservation interests:
Any managed realignment opportunity would expand and diversify existing habitat with a potential increase the capacity for various species of breeding, migratory and roosting birds eg waders.

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Appendix 1 Attendees at IBO Workshops held in 2004

Tyne to Tees and Saltburn to Bridlington Coastal Natural Areas

Location: Saltburn-by-the-Sea	
Name	**Organisation**
Dr Chris Pater (Project Manager)	English Nature
Ian Cappitt (Report Production)	Bullen consultants
Kathy Kennedy (Facilitator)	Consultant
Mike Quigley	English Nature
Dr David Evans	English Nature
Dave Mitchell	English Nature
Margaret Street	English Nature
Mike Leakey	English Nature
Tina Flinn	English Nature
Sue Rees	English Nature
Ian Bond	Ecologist - Hartlepool Council
Greg Guthrie	Project Manager SMP2, Royal Haskoning
Niall Benson	Durham Heritage Coast
Keith Ferry	Redcar and Cleveland Borough Council
Tracey Jones	Countryside Agency
Mike Windle	North East Yorkshire Geology Trust
Tim Brown	North East Yorkshire Geology Trust
Sarah Curran	Durham Heritage Coast Partnership
Stewart Rowe	Scarborough Borough Council
John Beech	North York Moors National Park
Stephen Morley	National Trust
David Laing	Stockton Borough Council
Roger Martin	Environment Agency
Denise Coverdale	English Nature
Susan Wilson	English Nature
Stuart Ogilvy	Yorkshire Museum
Gary Shears	District of Easington

Bridlington to Skegness Coastal Natural Area

Far Ings Nature Reserve	
Name	**Organisation**
Dr Chris Pater (Project Manager)	English Nature
Ian Cappitt (Report Production)	Bullen consultants
Kathy Kennedy (Facilitator)	Consultant
Margaret Freer	East Riding
Nicola Melville	RSPB
Duncan Huggett	Environment Agency
Mike Sleight	North east Lincolnshire Council
Simon Cooter	English Nature
Denise Coverdale	English Nature
Ben McCarthy	English Nature
Darren Clarke	Humber INCA
Faith Spencer	Environment Agency
Caroline Steel	Lincolnshire Wildlife Trust
Andrew Gibson	Yorkshire Wildlife Trust

Appendix 2 Workshop briefing note

Background to this work

English Nature is hosting a series of workshops focussing on coastal nature conservation to inform the review of the first generation of Shoreline Management Plans (SMP) for the North East coast of England. The objective of this contribution is to promote conservation opportunities and to link delivery of these opportunities with the selection of coastal management policy in the SMP, for example managed realignment. However, the workshop also provides an important opportunity to identify other opportunities to enhance the coastal environment and contribute to the national Biodiversity Action Plan targets for habitats and species.

The output of the workshops, both to be held in November and December 2004, will provide the basis for a project report to be drafted by Bullen Consultants in collaboration with the workshop facilitator Kathy Kennedy, an independent environmental consultant.

The areas in question

This study will focus specifically on the following English Nature coastal Natural Areas:

- Tyne to Tees Coast
- Saltburn to Bridlington
- Bridlington to Skegness

The workshops will aim to gather information on the following for each coastal Natural Area:

- Identification of all possible environmental enhancement opportunities for the restoration and improvement of coastal habitats in each Natural Area.
- How the realisation of the opportunity could be linked to the selection of the appropriate SMP policy.
- Links to other national biodiversity initiatives.
- Identification of the benefits/constraints of each enhancement opportunity.
- Identification of delivery mechanisms as to how each of these opportunities might be achieved (eg via SMP or other mechanism).
- Prioritisation of all biodiversity opportunities identified.
- Timescale to deliver biodiversity opportunities.

Natural Areas were developed by English Nature to provide a geographic framework for nature conservation objectives in the wider countryside. The framework enables targets to be set per natural area to help implement the UK government's Biodiversity Action Plan. The project report will therefore provide a breakdown by Natural Area of coastal biodiversity opportunities to assist the effective use of resources to yield the greatest nature conservation gain and environmental sustainability for the coastal environment.

Workshop objectives, dates and venues

Our objective is to gather sufficient information on each of the topics listed in the above box to enable the consultants to produce a detailed and high quality final report. The report will then help inform the advice that English Nature provides as a key stakeholder in SMP review. In addition we want participants to leave the workshop with a collective ownership and understanding about what the biodiversity priorities are for the areas in question.

Workshop 1 will focus on the stretch of coast between the Tyne and Bridlington. This event will be held at Saltburn Community and Arts Centre on **Tuesday 23 November 2004**.

Workshop 2 will focus on the stretch of coast between Bridlington and Skegness. This event will be held at Far Ings Nature Reserve Visitor Centre on **Thursday 2 December 2004**.

Both events will open at 10.00 with the workshop scheduled to start at 10:30 and continue until 15.30. Lunch and refreshments will be provided.

Workshop format and style

These events will be informal and friendly but also hardworking. Both workshops will provide you with essential background information on the Natural Areas in question, their biological, geological and geomorphological significance and update you on the current state of Shoreline Management Planning. Following an initial series of presentations, the workshop will place an emphasis on group work.

Who will be attending?

The workshops will be attended by key environmental stakeholders working within and across the three natural areas. It is anticipated that approximately 25 people will attend each event.

More information? Please contact Ian Cappitt at Bullen Consultants on: telephone 01733 391456, or via email imc@bullen.co.uk

Biodiversity opportunities summary form

<table>
<tr><td>Name of enhancement opportunity:</td><td colspan="2"></td></tr>
<tr><td>Links to other initiatives</td><td colspan="2">The details of the proposed biodiversity opportunity</td></tr>
<tr><td>(Try to include biodiversity, flood risk management and sustainable regeneration projects).</td><td colspan="2">Try to provide the following:
Where is the opportunity?
How much do we know about this site - what data is available?
Is monitoring currently being undertaken – what specifically?
Overview of likely delivery mechanism?
Who’s best placed to take the lead?
Who are the likely partners?
What is the timescale?</td></tr>
<tr><td>Benefits, risks and constraints?</td><td colspan="2" rowspan="3"></td></tr>
<tr><td rowspan="2"></td></tr>
<tr><td>Relationship with designations and BAP targets</td><td>Priority</td></tr>
<tr><td></td><td>(Is it on/adjacent to a designated site? How does it relate to Natura 2000 – eg are priority species involved?)</td><td>(Is the delivery of this opportunity of high, medium or low priority?)</td></tr>
<tr><td colspan="3">Comments concerning policy?</td></tr>
<tr><td colspan="3">(Does current policy need to change in order for this biodiversity opportunity to be realised? How exactly?)</td></tr>
</table>

ENGLISH NATURE

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Front cover photographs:
Top left: Using a home-made moth trap.
Peter Wakely/English Nature 17,396
Middle left: Co_2 experiment at Roudsea Wood and Mosses NNR, Lancashire.
Peter Wakely/English Nature 21,792
Bottom left: Radio tracking a hare on Pawlett Hams, Somerset.
Paul Glendell/English Nature 23,020
Main: Identifying moths caught in a moth trap at Ham Wall NNR, Somerset.
Paul Glendell/English Nature 24,888