

HISTORIC SEASCAPE CHARACTERISATION PROJECT
NEWPORT TO CLACTON (PROJECT NO: 5735)
PROJECT REPORT
SECTION 2: APPLICATION REVIEW AND CASE STUDIES

**HISTORIC SEASCAPE CHARACTERISATION (HSC)
NEWPORT TO CLACTON (5735)
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MARCH 2011.**

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Report Structure

The Project Report for ‘Historic Seascape Characterisation: Newport to Clacton and Adjacent UK Controlled Waters’ is divided into three sections for ease of use. The first section outlines the project’s method implementation, the second section outlines an applications review and case studies, and the third section contains printed versions of the National and Regional HSC Character Type text descriptions for the East Anglian region.

This document comprises Section 2 of the Report ‘Historic Seascape Characterisation: Newport to Clacton and Adjacent UK Controlled Waters’: Applications Review and Case Studies

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1 INTRODUCTION

- 1.1.1 This document forms Section 2 of the Newport to Clacton HSC Project Report. It comprises an applications review, designed to identify and demonstrate the capabilities of HSC and its potential for application to a range of planning and public engagement scenarios. It also seeks to illustrate how HSC can enable the historic character of our present coastal and marine seascapes to play its full part in shaping culturally distinctive and legible seascapes for the future, using case-studies to support the discussion. The applications review updates the applications review produced by Seazone as part of the 'Demonstrating the Method' Project in 2009. However where the previous work was still relevant and concise the original text has been retained.

2 AIMS AND OBJECTIVES

- 2.1.1 The review of HSC applications was approached in two parts. In the first instance a review of the potential applications of HSC was undertaken, updating the applications discussed by Seazone in the 'Demonstrating the Method Project'. Secondly two case-studies were identified through communication with the members of the Project Management Board to illustrate how HSC could be used in specific scenarios.
- 2.1.2 The applications review considers the following broad areas:
- Informing sustainable management of change, spatial planning, research planning and public engagement
 - Producing a HSC which is fully compliant with HLC principles
 - Producing a HSC which meets the user needs of English Heritage while adhering to data standards required by the Marine and Coastal Access Act 2009
 - Documenting the relationship between historic and natural environmental character
 - Contextualising and enhancing the application of the National Monument Record, Historic Environment Records and Maritime Record
 - Stimulating further research relating to the coastal and marine historic environment
 - Improving awareness, understanding and appreciation of the marine historic Environment

2.1.3 In order to contextualise the discussion, the review looks first at some applications of HSC to the broad national and international contexts.

- UK legislation, including the marine planning infrastructure as outlined in the Marine and Coastal Access Act 2009 and the responsibilities of English Heritage
- European Frameworks and Legislation

2.1.4 Included within these contexts are:

- Marine Spatial Planning and Coastal Access
- Development Control, land use and Planning
- Aggregate Extraction and Offshore Construction Licenses
- Coastal Management
- Rapid Coastal Zone Assessments (RCZA)
- Shoreline Management Plans (SMP)
- Marine Conservation Zones (MCZ)
- Regional Research Frameworks
- Seascape Character Assessments (SCA)
- Integrated Coastal Zone Management (ICZM)
- Public engagement and Education

3 BACKGROUND

3.1 *HLC/HSC*

3.1.1 The development of landscape characterisation is described in detail in Hooley (2011 and in press) and will not be reiterated here. In brief, characterisation developed from the mid 1990s onwards against a background of rapid change to the environment, issues of sustainability and the growth of spatial planning and GIS, as outlined below. Landscape, as a concept, gives a spatial framework of understanding accommodating more comprehensive planning and conservation requirements (Hooley 2011 and in press). Landscape's linking of human activity and natural processes is also essential to addressing sustainability (ibid).

3.1.2 Throughout this Report, 'landscape' is defined, in accordance with the European Landscape Convention as: 'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors' (Council of Europe 2000, Article 1). 'Seascape' is defined here as a subset of landscape which includes the sea, and/or areas of land whose character is perceived to be distinctly maritime.

3.1.3 Characterisation produces mapping of typical characteristics on a landscape scale, providing comprehensive coverage which is inter operable with other datasets. This

began with Landscape Character Assessment (LCA) and developed with the advent of Historic Landscape Characterisation (HLC) in 1994. The focus of characterisation on the typical moves away from the traditional historic environment approach of mapping the ‘special’ and thereby often deemed the ‘important’. Historic characterisation also considers time-depth in the present landscape rather than attempting to re-create past landscapes as a primary aim.

- 3.1.4 Characterisation is designed to be a constructive and effective method for informing the management of change in the whole environment, whether historic or natural. It can provide frameworks for informed conservation and management at many levels and scales, from local to national, complementing rather than replacing methods of selective designation and protection but capable of giving context to designation decision-making too (English Heritage, 2008).
- 3.1.5 HLC and Historic Seascape Characterisation (HSC) are both based on a process of creating a comprehensive and generalised, largely neutral and descriptive understanding of the cultural and historic character of an area or a topic. The approach involves bringing together existing, often unconnected, knowledge, normally at a high level of generalisation, to create a broad understanding of the essential characteristics of parts of the historic environment such as the townscape, the rural landscape, the military heritage, or coastal and marine seascapes (English Heritage, 2008).
- 3.1.6 Focusing at the scale of the landscape/seascape carries many particular advantages. Among these:
- it promotes new perspectives relating to the individual records of the historic environment,
 - it enables and justifies a proactive approach focusing on historic processes and extending beyond the limits of sites already known,
 - it corresponds with the scale of analysis already used by most agencies and spatial planners concerned with the natural environment, allowing the historic environment to take its place within an integrated approach to sustainable environmental management.
- 3.1.7 HLC has been applied across England’s land area in a breadth of contexts, including county based HLC, urban HLC, AONBs and National Parks. To date HLC has been completed across over 75% of England’s land area.
- 3.1.8 It is anticipated that the extension of historic characterisation principles to the coast and marine by HSC will be applied to meet the rapidly developing management requirements for the coastal and marine environment across a range of government bodies.
- 3.1.9 HSC provides baseline, value-neutral data; an evidence base on the historic cultural character of the present seascape. As such its use may be crucial to managing the

marine and coastal zones in the future. However, before use the data needs to go through a process of value or significance ascription or sensitivity assessment relevant to the time, purpose and context of the relevant applications.

3.2 *UK Legislation*

- 3.2.1 Since the 1990s, EU and UK Governments have sought to gain a better understanding of coastal and marine environments and their processes to provide the necessary information base for prospective strategic planning and long-term management of the marine environment (Hooley 2011 and in press).
- 3.2.2 Responding to the review of policy relating to the historic environment, *Power of Place, The Future of the Historic Environment* (English Heritage 2000), the government produced a statement on the historic environment, *A Force for Our Future* (DCMS/DTLR, 2001).
- 3.2.3 The report contained a number of recommendations, for Government itself, for the heritage sector, and for local authorities. The document recognised that, ‘Historic landscapes or iconic buildings can become a focus of community identity and pride’ demonstrating the value of understanding character as an intricate part of the historic environment. The report also talks of the need to expand the knowledge base for policy making, giving exemplars of mapping marine archaeological features using GIS. It also recognised the value of Historic Landscape Characterisation, identifying ‘management implications and opportunities for change and development, using the historic landscape character to enrich the future landscape’ (DCMS/DTLR 2001). It ‘commends character assessment to local authorities both as a useful tool in itself and as a way of encouraging greater involvement by local communities in conservation issues’ (DCMS/DTLR 2001).
- 3.2.4 This document was replaced by the Government’s Statement on the Historic Environment published in 2010 (DCMS). This identified a series of strategic aims including:
- Ensuring that relevant policy, guidance, and standards emphasize the responsibility to manage England’s historic environment
 - Ensuring that all heritage assets are afforded an appropriate and effective level of protection, while allowing, where appropriate, for well managed and intelligent change
 - Encouraging structures, skills and systems at a local level
 - Promoting opportunities to place people and communities at the centre of the designation and management of their local historic environment
 - Ensuring all heritage assets in public ownership meet appropriate standards of care and use while allowing, where appropriate, for well managed and intelligent change

- Seeking to promote the role of the historic environment within the Government's response to climate change and as part of its sustainable development agenda.
- 3.2.5 The statement reiterated the fact that the historic environment is an asset of enormous cultural, social, economic and environmental value and must be managed intelligently. It recognised that the legacy of thousands of years of human activity can take the form of landscapes, as well as the 'special' such as buildings, monuments and sites. It also cited the importance of the sites beneath our seas. The statement reaffirmed the government's commitment to the ELC and the wish to 'embed ELC requirements further within UK policy and practice' (DCMS 2010).
- 3.2.6 UK legislation for the management of coastal and marine environmental resources has focused increasingly on an integrated spatial approach to marine planning.
- 3.2.7 In 2002, DEFRA produced a report entitled "*Safeguarding Our Seas: A Strategy for the Conservation and Sustainable Development of our Marine Environment*". This report suggested the future vision for the marine environment should be clean, healthy, safe, productive and biologically diverse. These priorities are to be met through the integration and development of coastal and marine databases to encourage a more integrated approach to marine planning. This process was enhanced by the production of Charting Progress (DEFRA 2005) and Charting Progress 2 (DEFRA 2010a) which provide assessments of the state of the UK seas.
- 3.2.8 To assist in achieving this aim, the UK government consulted long and widely in its preparation for the Marine and Coastal Access Act 2009. The Act was a response to increasing pressures on our coasts and seas, and the associated impacts on coastal and marine ecosystems arising from man's present activities on land and sea. It has introduced a forward-looking, strategic spatial planning system for the sustainable use and protection of the marine environment, including the management of fisheries. It also allows for the creation of protected Marine Conservation Zones (MCZs) and introduced a right of recreational access to coastal land around England.
- 3.2.9 The Act established the Marine Management Organisation (MMO) which took marine responsibilities from a number of other organisations in order to implement a centralised, strategic system of marine planning, working towards sustainable development of the UK marine area. This helps fulfill the Government's commitment to introduce a new framework for the seas based on marine spatial planning, that balances conservation, energy and resource needs, and to improve access to the English coast.
- 3.2.10 The MMO was established in April 2010 and began working on implementing a system of marine planning based on a 'Marine Planning Statement' (MPS) and a series of Marine Plans. The MPS will state general policies for contributing to the

achievement of sustainable development in the UK marine area. It is intended to be a framework for consistent and evidence-based marine planning and decision making, contributing to this sustainable development. It is also a framework for preparing Marine Plans and taking decisions that affect the marine environment (DEFRA 2010b).

- 3.2.11 Marine plans will meet the requirements of the MPS relating to nine marine areas in English waters, setting the direction for marine licensing and authorisation systems in each administration. They will consider a broad range of physical, environmental, social, cultural and economic characteristics of each region as well as the purposes for which any part of the region is used such as communication, energy and transport systems. They will provide policy and spatial guidance for each area and help ensure that the decisions within a plan area contribute to the delivery of UK, national and any area specific policy objectives (DEFRA 2010b).
- 3.2.12 The new marine legislation explicitly recognises the vital part that data coverage, quality, standards, accessibility and inter-operability will play in the operation of the new system, noting among others the key roles of the Marine Environmental Data and Information Network (MEDIN) and the UK Marine Monitoring and Assessment Strategy (UKMMAS) in achieving that. The spatial data requirements of the MMO are highly relevant here given the spatial emphasis of the Marine Plans.
- 3.2.13 HSC is designed to inform the objective of a long-term and sustainable system for managing our marine environment expressed within the Marine and Coastal Access Act 2009 by providing a strategic scale characterisation of human activity across English and adjacent UK Controlled Waters. The resulting HSC can be applied to marine spatial planning contexts well beyond heritage management, informing a broad range of applications concerned with planning our distinctive future seascapes and coastal landscapes. The draft Marine Policy Statement (DEFRA 2010b) specifically notes the need to manage competing demands within the marine area, enabling the co-existence of compatible activities wherever possible and integrating with terrestrial planning.
- 3.2.14 English Heritage are responsible for advising the government on historic environment aspects of developing sustainable approaches to the strategic management of the coastal and marine environment through the implementation of initiatives such as integrated coastal zone management (ICZM), the development of shoreline management plans (SMP) and the long term management of coastal change. As part of its curatorial duties, English Heritage also advises the UK Government on meeting the requirements of managing the direct impacts of climate change on the historic environment while ensuring that the development of mitigation measures minimises potential impacts on the historic landscape. HSC will provide a valuable tool for informing these decisions.

3.3 *European Frameworks and Legislation*

- 3.3.1 European marine planning policy closely mirrors the UK approach to seeking more sustainable management of the seas (EC 2007a and b; EU 2008; EC 2008; DEFRA 2008; UK Parliament 2008), further highlighting the need for holistic, area-focused GIS databases to convey historic cultural character at a strategic level (Hooley 2011 and in Press).
- 3.3.2 European coastal policy has been established on the foundation of ICZM, a recommendation which was agreed in 2002 by the European Parliament and Council to implement a strategic approach to management of the coastal zone. This concept introduced a broad, holistic approach to coastal management and planning, working with natural processes.
- 3.3.3 European marine policy also builds upon the principles outlined in the UNESCO Convention on the Protection of the Underwater Cultural Heritage 2001. Although not all EU countries, including the UK, are signatories to the convention, its principles are adhered to as best practice for managing marine heritage.
- 3.3.4 A number of European policy documents have been produced which reflect EU marine planning priorities, including the EC Integrated Maritime Policy and accompanying Action Plan (EC 2007a and b), the Marine Strategy Framework Directive (EU 2008) and subsequent 'Roadmap for Marine Spatial Planning' (EC 2008).
- 3.3.5 The Action Plan for the EU Integrated Maritime Policy (EC 2007b), seeks to coordinate the management of maritime activity using common principles for marine spatial planning and ICZM to achieve an integrated approach to meeting economic, social and environmental commitments. This approach is fundamental to achieving sustainable development and meeting the aims of the Marine Strategy Framework Directive.
- 3.3.6 EU Maritime Policy (EC 2007a 3.2.3), recognises the need for comprehensive and interoperable mapped information to optimise the effectiveness of marine spatial planning. The outputs from the HSC programme are fully in accord with that. It also recognises the need for integration and involvement of coastal communities in the sustainable management of the marine and coastal environment (EC 2007a, 4.3). The HSC text descriptions will provide a flexible, and accessible resource for education and public engagement in initiatives developed to engage coastal communities in this regard.
- 3.3.7 The Marine Strategy Framework Directive aims to provide the framework for achieving good environmental status for Europe's marine environment (EC 2008), tackling the deterioration of Europe's marine environment, the poor knowledge base about that environment and the institutional barriers to addressing these problems that exist at European level.

- 3.3.8 As is widely recognized, historic processes play an important role in shaping our past and present natural environment at both strategic and detailed level. The EU therefore recognises that the implementation of the Strategy by the Directive needs to include an understanding of the environment's historic cultural dimension in the same manner as is recognised by the UK's Marine and Coastal Access Act 2009.
- 3.3.9 Implementation of the European Landscape Convention (ELC) which came into force in the UK on 1 March 2007 (www.coe.int/t/e/Cultural_Cooperation/Environment/Landscape/) also highlights the Council of Europe's recognition of the need to take account of cultural landscape during the development of EU marine strategy. The ELC is underpinned by a requirement 'to recognise landscapes in law as an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity' (*ibid*, Article 5). Significantly, the ELC explicitly embraces marine areas (Hooley 2011 and in press). In emphasising the central roles of human perception in defining landscapes and of human activity in creating them, the ELC embodies concepts already at the heart of all historic landscape and seascape characterisation work (English Heritage 2005b; Clark et al 2004, Hooley 2007, 2011). English Heritage published an Action Plan for implementing ELC (English Heritage 2009), seeking more recognition of the historic dimension of landscape in the marine zone, including through the use of HSC and the development of new legislation and procedures.

4 APPLICATIONS REVIEW

4.1 *Introduction*

- 4.1.1 Historic Seascape Characterisation (HSC) is designed to inform the management of change affecting our landscape/seascape through the provision of a heritage environment curator's perspective of the character of the historic dimension of the coastal and marine environment. It uses the same principles and complements the application of Historic Landscape Characterisation (HLC) to terrestrial landscapes.
- 4.1.2 The following case-studies look at how HSC could benefit the wider community from both planning and management perspectives. They provide valuable insight into the areas in which HSC could be applied.

4.2 *Management and Planning*

- 4.2.1 The current HSC programme was designed to meet English Heritage's requirements to inform the management of change in the marine environment on multiple scales through a broad range of applications.
- 4.2.2 English Heritage is the Government's lead advisory body for the historic environment and has a statutory role to support government organisations at a national and international level in implementing the planning system both on land and for the marine historic environment out to the 12nm limit. In addition advice is given on a 'without prejudice' basis for areas beyond this statutory limit. English Heritage are also responsible for funding strategic research to develop the information base on which they make their decisions.
- 4.2.3 The management of change in the historic environment ties in to a broad range of policies and legislative structures, designed to meet the needs of the UK Government and the EU to understand the impact of pressures on the marine environment, assessing whether the impact is of significance, and evaluating alternative management strategies (DEFRA, 2009).
- 4.2.4 While being the statutory responsibility of English Heritage, the requirement to take account of the historic environment also falls within the remit of other policy advisors, policy makers and curators of the marine and coastal environment as well industrial and other stakeholders. They do this not only by observing specifically heritage-related legislation but more generally through the implementation of UK and EU laws, agreements and policies, such as the European Landscape Convention (Council of Europe, 2000) and the Marine and Coastal Access Act 2009. This applications review discusses the potential benefits of the HSC in fulfilling their needs as well as those of English Heritage.

Landscape and Seascape Management

- 4.2.5 The HSC National Method Statement (Tapper, 2008 and 2010) details the principles underpinning HSC, following the principles already applied in Historic Landscape Characterisation.
- 4.2.6 The HSC methodology allows for the interpretation of character to take place, combining the sensory and the cognitive, across different levels of the marine and coastal environment, allowing an understanding, for example, of the dominant cultural processes taking place in the water column, to be differentiated from or compared to those taking place on the sea surface. The assessment of historic character at each level allows the user to differentiate the complex relationships between those tiers in respect of the cultural and historic activities that have shaped them.
- 4.2.7 The European Landscape Convention (ELC), is part of the Council of Europe's work on natural and cultural heritage, spatial planning and the environment. The ELC (also known as the Florence Convention) was adopted on 20 October 2000 and came into force in its initial group of ratifying states on 1 March 2004 (Council of Europe, 2004, Treaty Series no. 176). It promotes the protection, management and planning of European landscapes and organises European co-operation on landscape issues. It is the first international treaty to be exclusively concerned with all dimensions of the European landscape. The HSC programme substantially contributes towards fulfilling UK commitments under the Convention which came into force in the UK on 1 March 2007.
(<http://www.coe.int/t/dg4/cultureheritage/Conventions/Landscape/>)
- 4.2.8 The ELC defines landscape as 'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors' (Council of Europe, 2000, Article 1). That is underpinned by a requirement for landscape to be seen as a reflection of the diversity of people's shared cultural and natural heritage, and a foundation of their identity (ibid, Article 5). The ELC takes account not only of landscape relating to land but also that reflecting coastal and marine areas (ibid, Article 2).
- 4.2.9 A 'Framework for Implementation of the European Landscape Convention in England' was published by Natural England in partnership with Defra and English Heritage in October 2007. Overall the framework sought to further strengthen the protection, management and planning of England's landscapes, by providing a structure for action plans that will be prepared by any interested partners and stakeholders. The document underpins a wide range of activities which, through public engagement and stakeholder involvement, will lead to wider understanding and appreciation of landscapes, improved knowledge and care, as well as a sense of inspiration, well-being and connection between people and place
(http://www.naturalengland.org.uk/Images/elcframework_tcm6-8169.pdf).

- 4.2.10 The ‘Framework for Implementation of the European Landscape Convention in England’ aims to:
- Improve performance within the current legal and regulatory frame.
 - Influence future legislation, regulation and advice, including contributing to gap analysis.
 - Improve the understanding of landscape character and dynamics, and the monitoring of change and trends.
 - Engage people through comprehensive and accessible awareness and understanding activities as well as through, promotion, education & training.
 - Share experiences and best practice.
- 4.2.11 The ELC requires us to engage in the understanding and management of our dynamic landscapes everywhere in a manner which recognises them as diverse as the human perspectives which consider them and the complexities of cultural and natural forces apparent to those perspectives.
- 4.2.12 The concepts underpinning HLC and HSC strongly mirror the principles upon which ELC is founded (English Heritage, 2008).
- 4.2.13 In emphasising the central roles of human perception in defining landscapes and of human activity in creating them, as outlined above, the ELC embodies concepts already at the heart of all historic landscape and seascape characterisation work (English Heritage 2005b; Clark et al 2004).
- 4.2.14 The scope of the ELC specifically includes ‘marine areas’ as well as ‘land’ and ‘inland water’ and, in common with HLC and HSC, it takes a holistic approach, concerning ‘landscapes that might be considered outstanding as well as everyday or degraded landscapes’: the commonplace and poorly regarded as well as the special.
- 4.2.15 The ELC requires each party where it is in force ‘to identify its own landscapes throughout its territory’ and ‘to analyse their characteristics’ (Article 6): those are fundamental tasks of any HLC and HSC, and the applications which HLC/HSC are designed to inform (see Clark et al 2004, Hooley 2007, 2011 and in Press) are directly aligned with the requirements in the ELC to analyse ‘the forces and pressures transforming [those characteristics]’ (Article 6) and ‘to establish and implement landscape policies aimed at landscape protection, management and planning’ (Council of Europe, 2000 Article 5).
- 4.2.16 The ELC requires us to engage in the understanding and management of our dynamic landscapes everywhere in a manner which recognises them as diverse as the human perspectives which consider them and the complexities of cultural and natural forces apparent to those perspectives.
- 4.2.17 A number of recent UK government documents have highlighted the importance of landscape and the historic environment in this country. The Government Statement of the Historic Environment (DCMS 2010) states that the physical legacy of

thousands of years of human activity is all around us in the form of buildings, monument, *landscapes* and sites.

- 4.2.18 The draft Marine Policy Statement recognises that historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including the physical remains of past human activity, whether visible, buried or submerged (DEFRA 2010b). It states that the marine plan authorities should take into account the historic character of the plan area with specific attention paid to landscapes and groups of assets that give it a distinctive identity (ibid, 35). EH have observed that the HSC methodology is a mechanism which would support delivery of this.
- 4.2.19 The draft MPS also defines seascape as “landscapes over coast and adjacent marine environment with cultural, historical and archaeological links with one another” (DEFRA 2010b, 39). Although that differs from a straightforward application of the ELC’s definition of ‘landscape’ to the sea, the use of HSC will allow this view of landscape/seascape to be considered more fully in its cultural and physical context against the whole of the marine zone to which the Marine and Coastal Access Act 2009 applies.
- 4.2.20 Methodologies embodying the principles of HLC provide effective tools to provide that necessary comprehensive understanding at landscape scale, capable of accommodating a range of perspectives and queries, not only those of historic environment specialists, and interoperable with natural environment datasets (Fairclough 2002a, 2007a & b). In demonstrating the practicability of such a methodology for England’s coastal and marine zones, this project will make a substantial contribution towards meeting our commitments under the ELC (Hooley, 2007, 2011 and in Press).
- 4.2.21 In 2010 work began by Natural England and Scottish Natural Heritage to produce method guidance for multi-themed and multi-faceted Seascape Character Assessment (SCA), extending to seaward the long established foundation of Landscape Character Assessment (LCA), whose own methodology is also currently (March 2011) under review. HSC has already been identified as a core data source in the draft SCA Guidance currently under consultation (D. Hooley pers. comm.).

Meeting EH Management Needs

Policy Requirements

- 4.2.22 English Heritage and local planning authorities represent a first point of contact for seeking advice on many proposals for change in the historic environment. The strength of that advice is dependent on having a sound information base on which to base it.

- 4.2.23 The National Heritage Act (OPSI, 2002) extended English Heritage's statutory curatorial responsibilities to the 12nm limit of England's share of UK Territorial Waters. Across most of that area, English Heritage is the sole statutory advisor regarding the historic environment. Beyond that, to the full extent of UK Controlled Waters, English Heritage's Maritime Archaeology Team and Marine Planning Unit also provides historic environment advice on a 'without prejudice' basis to Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) of plans, programmes, license and development proposals as required by EU Directives.
- 4.2.24 As already demonstrated through the applications of Historic Landscape Characterisation to the management of change on land (Clark et al 2004), the implementation of HSC across UK Controlled Waters will be a major advance in enabling English Heritage to meet both its statutory and de facto responsibilities relating to the management, research and improved public understanding of, and accessibility to, the historic environment across that area.
- 4.2.25 HSC contributes substantially towards the needs of English Heritage to manage the marine historic environment by addressing the priorities for the following areas:
- Addressing the priorities published in 'Taking to the Water' (Roberts & Trow 2002)
 - Contributing towards a research strategy for the marine area
 - Providing a basis for accounting for the historic environment during marine spatial planning, meeting the requirements of the Marine and Coastal Access Act 2009
 - Supporting the development of a European marine planning infrastructure to support sustainable management and development of the marine environment (EC 2007)
 - Meeting the obligations on the UK in respect of the European Landscape Convention (<http://www.coe.int/t/dg4/cultureheritage/Conventions/Landscape>)
 - Contributing towards the policies of Integrated Coastal Zone management (ICZM) (DEFRA 2008)
- 4.2.26 The publication of "Taking to the Water" (English Heritage, 2002) outlined a strategic approach and recommendations for managing maritime archaeology in England. It highlighted the need for an approach which was tailored to the needs of the marine environment to be adopted, beyond the legislative and planning regime regarded as routine in terrestrial heritage. HSC contributes towards that by providing a strategic level framework for its understanding and management, underpinned by the same historic characterisation principles as applied on land in HLC .
- 4.2.27 English Heritage supports a broad range of Regional Research and planning frameworks (English Heritage, 2002). HSC facilitates the inclusion of the coastal and maritime landscape in regional research frameworks by providing comprehensive baseline information on that aspect.

Coastal Management

- 4.2.28 One of the aims of the new marine planning system is to ensure that coastal areas, the activities within them and the problems faced are managed in an integrated and holistic way (DEFRA 2010b). HSC, in association with HLC can contribute towards this holistic view of policy, giving an overall view of typical activities and character in different areas. At its core landscape as a concept, gives a spatial framework of understanding accommodating comprehensive planning and conservation requirements (Hooley 2011 and in press).
- 4.2.29 The draft Marine Policy Statement (DEFRA 2010b) states that the completed marine plans will physically overlap with terrestrial plans in intertidal regions and will not be restricted by the artificial boundary of the coast. This will require a consistency of policy, liaison and a shared evidence base. HSC is particularly relevant to integrated management of the coastal zone not only in sharing common principles with HLC but in providing the ‘view from sea’ to complement HLC’s ‘view from land’: capturing those overlapping perspectives that occur within the coastal zone.
- 4.2.30 English Heritage and in many cases, individual local authorities, are responsible for informing initiatives towards the implementation and review of Integrated Coastal Zone Management (ICZM) and Shoreline Management Plans (SMPs), both designed to integrate long-term policy decision-making and strategic planning relating to the coastal zones. The characterisation information contributed by HSC and HLC can therefore be used within projects such as these. They provide a holistic view of the historic character of the area in question, giving a valuable landscape context to these initiatives.
- 4.2.31 Rapid Coastal Zone Assessment Surveys (RCZAS), are being undertaken across all areas within English Heritage’s remit to enhance the coastal historic environment record and inform such initiatives. RCZAS are essentially concerned with individual features and monuments, often reflecting later processes such as erosion and inactivity which has uncovered or preserved the historic environment. HSC/HLC can provide an enhanced understanding of ‘the typical’ to this data, incorporating the comprehensive cultural processes which have produced such results.
- 4.2.32 Many of Europe's coastal zones face problems of deterioration of their environmental, socio-economic and cultural resources. Integrated Coastal Zone Management (ICZM) is an approach promoted by the European Commission through the EU ICZM Recommendation (EU 2002) to bring together consideration and management strategies to address the many inter-related biological, physical and human problems presently facing these zones. Their cause can be traced to a range of underlying problems related to a lack of knowledge, inappropriate and

uncoordinated laws, a failure to involve stakeholders, and a lack of coordination between the relevant administrative bodies (EC 2000).

- 4.2.33 HSC intrinsically brings together the cultural and natural environments, giving an integrated understanding of the interests, activities and attitudes which have shaped them. The interoperability of HLC/HSC with other environmental datasets also means that data can be easily incorporated and manipulated, contributing towards the desired integrated management.
- 4.2.34 ICZM aims to promote a collaborative approach to planning and management of the coastal zone, within a philosophy of governance by partnership with civil society. UK Government action towards integrated coastal zone management (ICZM) (DEFRA 2008) is in line with implementing the EU recommendation for a stocktake and national strategy formulation (EU 2002). Liaison with stakeholders is at the core of HSC, therefore will contribute towards the philosophy of partnership. The perceptive nature of HLC and HSC connects both expert and experiential views of all connected with an area from the strategic to local engagement (Hooley in press).
- 4.2.35 Overall HSC is the only available source of comprehensive area-based data on the typical historic character of our coastal zone, a context essential to feed into ICZM considerations as it provides a key to understanding coastal distinctiveness, diversity and cultural legibility. The common principles of HLC and HSC transcend the boundaries of land and sea, enabling a seamless approach to ICZM which incorporates the differing perspectives from land and sea. Its interoperability with other GIS databases will make it a key tool in spatial management and integration of differing datasets.
- 4.2.36 Sustainable management through the application of ICZM principles will seek to retain those aspects for future generations to enjoy in their coastal landscapes. HSC could in time, also contribute to the benchmarking of change in coastal character. Landscape or seascape's linkage between human cultural activity and present expressions of natural processes is essential to addressing the environmental unsustainability now widely accepted as characterising the later stages of man's relationship with global resources. Achieving sustainability is a cultural, as well as environmental issue. The time-depth in the present landscape demonstrated by HLC and HSC can be taken forward to inform future management of change as it occurs within this landscape. This should allow future generations to build their identities, sense of place and meaning from their landscapes, maintaining quality of life whilst reconciling this with environmental sustainability (Hooley 2011 and in press).
- 4.2.37 SMPs provide a large-scale assessment of the risks associated with coastal processes and present a long term policy framework to reduce these risks to people and the developed, historic and natural environment in a sustainable manner. Shoreline Management Plans (SMPs) are developed at a strategic level to provide a

basis for developing long-term policies for coastal management (McInnes 2003, 50-61). An SMP should “provide the basis for policies for a length of coast and set the framework for managing risks along the coastline in the future” and “identify the best approach or approaches ... over the next 100 years” (DEFRA 2006).

- 4.2.38 A second round of SMPs is currently under way to ensure full account is taken of latest information and future challenges. While its extensive national coverage comes too late to inform this SMP round, HSC will, with HLC, provide a valuable tool in informing future rounds by providing landscape context and an understanding of typical cultural processes to the assessment of all aspects of the coastal and marine environment covered in an SMP. From a heritage perspective, while SMPs currently focus primarily on the assessment of risk to individual historic assets along the coast, as well as putting these assessments in a broader context, HSC enables an assessment of threats to the broader character of a coastal landscape as well as to individual sites to be made, analogous to the considerations of both species and habitats in SMP ecological assessments.
- 4.2.39 DEFRA’s revised Shoreline Management Plan Guidance (DEFRA 2006) highlights the need for more consistent, integrated datasets, specifically noting the scarcity and inconsistency of data on archaeological potential and value and lack of information on a strategic level (DEFRA 2006, Appendix B.2). The consideration of historic landscape and seascape character types will enable a better understanding of the historic processes that have shaped a given area, including its present typical cultural aspects but also present biodiversity and other ‘natural’ environmental expressions. It can also indicate the likely ranges of archaeological features corresponding with those processes that may be present, whether or not they have yet been confirmed by actual discoveries. HSC on a strategic level will improve the considered assessment of these issues, with explicit justifications, and will provide a context for site-specific assessments of potential during localised investigations.
- 4.2.40 DEFRA’s 2006 SMP Guidance was supported by ‘Shoreline Management Plan Review and the Historic Environment: English Heritage Guidance’, which pre-dates the development of the HSC Methodology but does note the role of HLC in understanding the historic dimension of landscapes (English Heritage 2006a). This Guidance Note builds on an earlier one relating more specifically to coastal defences and the historic environment (English Heritage 2003).
- 4.2.41 The programme of Rapid Coastal Zone Assessment Surveys (RCZAS), funded by individual local authorities, is designed to enhance and update the coastal HER, through a two-phased approach. Phase 1 (Desk-based Assessment) draws on data from aerial photographs, LiDAR, historic maps, the local authority Historic Environment Records, the National Monuments Record and other sources, to make an assessment of the data available, the nature and character of historic environment within the project area, and potential threats to heritage assets, in order

to design a strategy for phase two which prioritises areas where heritage assets may be most at risk. Phase 2 (Field Assessment) comprises a rapid walk-over survey, designed to verify records from Phase 1, locate and characterise site types not visible from the air, assess significance and vulnerability.

- 4.2.42 HSC, with HLC, is well positioned to give landscape context during the interpretation of available data during Phase 1 in order to present a considered assessment of the heritage assets in the area. It provides a broader perspective on the cultural character of the present coastal environment and the typical processes that have helped to form it and shape the patterns of survivals from earlier periods. It also highlights the processes which determine the types of sites likely to be present but as yet unrecognized along the coastal and intertidal zones. Working in a complementary manner, HSC and HLC will provide the landscape-scale contextualisation of the coastal HER enhancement resulting from the current programme of RCZAS.

Climate Change and the Historic Environment

- 4.2.43 The management of change arising from potential impacts of climate change and their mitigation is a key priority for English Heritage. A policy statement setting out English Heritage's thinking regarding the implications of climate change was published in 2008 (English Heritage, 2008). It recognises the potential impacts from climate change, such as sea level rise, extreme weather conditions and hydrological change on the historic landscape as well as the possible effects of mitigative measures in response to climate change such as the development of sea defences or renewable energy resources.
- 4.2.44 English Heritage recognises that such impacts should always be taken into account when policy is being formulated and English Heritage is committed to working with others to avoid or minimise any adverse impacts, while delivering the necessary changes.
- 4.2.45 The output of HSC will provide a valuable resource in informing government agencies on the character of the different parts of the coastal and marine environment during policy making and during the assessment of potential impacts of new developments during EIA.
- 4.2.46 As well as being a force for change in the historic landscape, climate change also plays an important part in defining the present character of some coastal and marine areas, through the construction of sea defences, onshore and offshore windfarms, and the presence of rapidly eroding coastlines or the reclamation of coastal areas. All of these play a key part in defining the historic cultural character of many of our coastal landscapes and seascapes.

Marine Planning

- 4.2.47 The Marine and Coastal Access Act facilitated the creation of a new Marine Management Organisation (MMO), responsible for delivering many of the Act's objectives. The new organisation aims to be a centre of marine expertise and research, providing a consistent and unified approach, delivering improved coordination of information and data and reducing administrative burdens. The integration of marine management will provide benefits from joined up delivery and economies of scale that could not be realised by placing these functions in separate organisations.
- 4.2.48 Development and planning are key responsibilities for the MMO who are developing a new plan-led system for marine activities, including a new licensing regime. Licenses must now be obtained from the MMO when depositing any item in the sea or under the seabed including scuttling vessels, construction works, dredging, explosives dumping and incineration.
- 4.2.49 The government bodies which support the MMO, dealing with the management and protection of the different aspects of the marine environment, such as Natural England, English Heritage and the Environment Agency share similar and overlapping responsibilities.
- 4.2.50 The Marine Coastal and Access Act aims to facilitate a strategic marine planning system that will clarify marine objectives and priorities for the future, and direct decision-makers and users towards more efficient, sustainable use and protection of our marine resources. The spatial planning approach is intended to encourage greater coherence in policy and management of the marine area, its resources and the activities and interactions that take place within it. The government is particularly keen to implement a system of planning as they recognize that activities in the marine area and coast contribute substantially to the UK economy and quality of life (DEFRA 2010b). The Marine and Coastal Access Act 2009 makes a number of provisions regarding consideration of the historic environment within marine planning. In particular, Section 54 of the Act, 'Duty to keep relevant matters under review' cites the 'physical, environmental, social, cultural and economic characteristics of the authority's region and of the living resources which the region supports' as relevant matters to the formulation of marine plans (Section 54, (2)a). It goes on to state that this includes a reference to characteristics of the region which are of a historic or archaeological nature (Section 54 (4)).
- 4.2.51 When considering licensing the Act again states that 'any reference to the environment includes a reference to any site (including any site comprising or comprising the remains of, any vessel, aircraft or marine structure) which is of historic or archaeological interest' (Section 115 (2)).
- 4.2.52 Part 5 of the Act considers nature conservation and outlines the procedures for the creation of Marine Conservation Zones (MCZ). This states 'in considering whether it is desirable to designate an area as an MCZ, the appropriate authority may have

regard to any economic or social consequences of doing so' (Section 117 (7)). This includes a reference to any consequences of doing so 'for any sites in that area (including any sites comprising, or comprising the remains of, any vessel, aircraft or marine installation) which are of historic or archaeological interest' (Section 117 (8)).

4.2.53 The coastal access section of the act (Part 9) is also highly relevant to both HSC and HLC. This outlines the aim to provide one or more long distance coastal access routes for the English coastline. This will involve large scale consultation of all interested parties (as outlined in Section 302) on proposed routes and their effects on the environment. HSC and HLC will be key to assessing the cultural character of the areas under study and the impacts of the footpaths. This is particularly significant to Section 301 (4f) which considers extensions of the route to encapsulate landscapes of interest.

4.2.54 The implementation of the Marine and Coastal Access Act is shaped by a series of High Level Marine Objectives (Defra 2009b) to be achieved through the new planning system. The objectives fall under five basic headings:

- Achieving a sustainable marine economy
- Ensuring a strong, healthy and just society
- Living within environmental limits
- Promoting good governance
- Using sound science responsibly

4.2.55 Within these areas specific aims relate to the historic and cultural environment including :

- People appreciate the diversity of the marine environment, its seascapes, its natural and cultural heritage and its resources and act responsibly.
- All those who have a stake in the marine environment have an input into associated decision-making.
- The use of the marine environment is spatially planned where appropriate and based on an ecosystems approach which takes account of climate change and recognises the protection and management needs of marine cultural heritage according to its significance.

4.2.56 The next stage of implementation of the marine planning system is the creation of a marine policy statement to implement a more integrated approach to marine

management and setting both short and longer-term objectives for sustainable use of the marine environment.

- 4.2.57 The subsequent stage will be the creation of a series of marine plans, which will implement the policy statement across specific areas, using information about socio-economic and spatial uses and needs in those areas. These will ensure that different and potentially competing activities are managed in such a way that they contribute to sustainable development. An overriding principle will be to promote compatibility and reduce conflict.
- 4.2.58 The draft MPS states that marine plan authorities should consider at a strategic level visual, cultural, historical and archaeological impacts for all coastal areas (DEFRA 2010b, 39). Similarly, development-led desk based assessments must take account of the relationships between nature and human activity in order to interpret potential risks and impacts of proposed activities, and more generally to plan for sustainable futures. The HSC character texts will provide a non-technical resource for decision makers to gain a broader understanding of the historic cultural character of areas they are considering.
- 4.2.59 Significantly, the consultation for the marine planning system states that marine plans will need to represent the three dimensional nature of the marine environment by addressing ‘the seabed and sub-strata below, the whole of the water column and the area above it’ as well as providing for a temporal dimension. The consultation goes on to say that all good planning depends on a robust evidence base including a collection socio-economic and environmental information, citing the importance of spatial datasets, identifying gaps in knowledge and untapped sources of information.
- 4.2.60 HSC meets these needs in a number of ways. The multi-tiered nature of the marine GIS structure corresponds exactly with the strata identified within the consultation as existing within the three dimensional marine zone. In addition HSC provides time-depth as an intrinsic facet of its nature: the present landscape/seascape is a culmination of cultural and natural processes. This is further supported by the inclusion of a previous character sub type within the GIS structure. In addition, HSC will contribute towards the robust evidence base which is required, itself bringing together socio-economic and environmental evidence to give an overall cultural character. The information is presented as a spatial dataset and as a result of extensive data collation brings in sources of information which may otherwise be overlooked.
- 4.2.61 There is a suggestion that the MMO should carry out a strategic scoping exercise including broad scale mapping of how and where marine activities and resources differ by location and the spatial constraints on them (DEFRA 2010c, 15). The proposed ‘policy map’ would comprise colour coded layers corresponding to features, areas of conflict etc and temporal layers. The HSC methodology is clearly

suited to delivering this type of information and closely integrates with the planned marine plan methodologies.

- 4.2.62 English Heritage's initial maritime policy outlined in Taking to the Water (Roberts and Trow 2002) stated that 'the principles set out in Planning Policy Guidance Note 16: archaeology and planning (PPG16) should be applied to the treatment of sub-tidal archaeological remains in order to secure best practice'.
- 4.2.63 PPG 16 has since been updated by the implementation of Planning Policy Statement (PPS) 5 which was accompanied by a Government Vision Statement on the Historic Environment (DCMS 2010). The latter commits the government to ensuring 'that all heritage assets are afforded an appropriate level of protection, whilst allowing, where appropriate, for well managed and intelligent change' with respect to sustainable development. PPS5 expands upon PPG16, suggesting that decisions regarding heritage should be based on the nature, extent and level of significance, investigated to a degree proportionate to the importance of the heritage asset.
- 4.2.64 The draft Marine Policy Statement states that development decisions should be sensitive to any potential impacts on sites of particular significance, including marine heritage assets. These should be conserved through marine planning in a manner proportionate and appropriate to their significance (DEFRA 2010b). It suggests that when considering the impact of an activity or development on seascape the marine plan authority should take into account existing character and quality, how highly valued it is and its capacity to accommodate change.

Marine Development

- 4.2.65 Since 2007 the extraction of marine minerals has been controlled through the Environmental Impact Assessment and Natural Habitats (Extraction of Minerals by Marine Dredging) (England and Northern Ireland) Regulations 2007, which incorporates the requirements of European Community EIA Directive 85/3337/EEC and the European Habitats Directive 92/43/EEC. This requires all applications for dredging to be accompanied by an Environmental Statement (ES) presenting the results of an Environmental Impact Assessment (EIA) which should draw together an assessment of a projects likely significant environmental effects.
- 4.2.66 As stipulated in the 'Guidance on the Historic Environment for the Offshore Renewable Energy Sector' published by COWRIE (Wessex Archaeology, 2007), developers of offshore renewable energy schemes have been under the same obligation to undertake EIA as the aggregate industry. The EIA Directive applies anyway, and the establishment of the MMO and the new marine licensing system means that dredging and renewable energy schemes, along with a range of other activities such as marine construction or dumping, will all be subject to similar processes. Decisions will be made in accordance with marine planning documents

including the MPS and individual marine plans. EIA will continue to be key to this process and will rely on the provision of good spatial information. The provision of HSC will aid interpretation in EIA, especially with regard to intrinsic character.

- 4.2.67 The COWRIE guidance specifies the need to review baseline information as part of this process, recommending a broad study area encompassing sources such as Strategic Environmental Assessments and Historic Landscape Characterisation where available (Wessex Archaeology, 2007). The COWRIE Guidance was published before several significant developments affecting landscape and seascape considerations for EIA. As a result, of the various EIA Environmental Statement (ES) input themes, the Guidance's consideration of the historic environment for EIA is exclusively under the 'Cultural Heritage' input (as noted on p28). It makes brief passing references to 'landscape' at 5.12 but does not note 'Landscape' as a separate environmental theme for Environmental Statement input. The Guidance makes no reference to the ELC (ratified by UK in 2007) and while mentioning HLC, it touches only briefly on 'seascape': its publication pre-dated finalisation of the HSC method and only anticipates HSC as a future development. With the ELC now in force in the UK and both HLC and HSC coverage now extensively in place across England's land, coast and seas, there is ample opportunity now to complement the COWRIE guidance with EIA ES inputs on the 'Landscape' theme for marine development proposals, informed by use of HLC and HSC accompanied by visual impact assessment and the Seascape Character Assessment (SCA) approach currently being developed by Natural England (D Hooley pers. comm.)
- 4.2.68 Such a broader approach, in conjunction with the COWRIE Guidance, , would provide a valuable addition in meeting the offshore renewable industry's requirements for information on a regional scale.
- 4.2.69 In addition to informing English Heritage's own responsibilities to advise during the production of Environmental Statements, HSC at the strategic scale produced by this project could therefore be utilised by developers as initial baseline information for informing scoping studies, with more detailed HSC assessment as appropriate, as already happens with HLC for some developments on land. In similar manner, HSC can inform curators and archaeological contractors in preparation for desk-based assessments, briefs, and evaluations for development proposals such as offshore windfarms, aggregate license areas, coastal defences or harbour developments.
- 4.2.70 The HSC text descriptions of character types provide an overview of coastal and marine historic cultural character in a consistently structured format and comprehensible language designed to communicate readily with planners and other specialists. As such, they provide a good basis for positive engagement, advice and comment on proposed mitigation schemes.

- 4.2.71 Similarly, HSC could be particularly useful when producing Strategic Environmental Assessments (SEA) which have to consider landscape and the interrelationship between human and natural factors. Like EIA, SEA must establish baseline information to assess these interactions but on a much larger scale, which could be facilitated by HSC.

Coastal Access

- 4.2.72 The Marine and Coastal Access Act 2009 contains provisions for creating a public access route around the English coast. In doing so the Act amends existing legislation – namely the National Parks and Access to the Countryside Act 1949 and the Countryside and Rights of Way Act 2000 (CROW Act 2000).
- 4.2.73 The Act provides for public access on foot to certain types of land including areas of open land comprising mountain, moor, heath, down, and registered common land, It also increases protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation, and provides for better management of Areas of Outstanding Natural Beauty (AONB). The Act is designed so that some forms of land are exempt from the rights of access, depending on the nature of their usage, such as railways, golf courses quarries and aerodromes.
- 4.2.74 HSC provides a valuable resource both in the planning the coastal access route and to informing the information provision for the route's users. The HSC GIS, used in conjunction with baseline data required for route-planning, will highlight the breadth of character through which the route is being planned, provide information on what that character comprises, and help identify optimal situations where information for route users would be most beneficial in raising awareness of the cultural and historical landscape and seascape through which the route passes. The Character Type text descriptions produced in conjunction with the HSC GIS offer a useful resource in the development of public information for users along the route.
- 4.2.75 The coastal access provision gives a major opportunity to stimulate people's thoughts about their landscape and seascape perceptions that come together at the coast.

Designated Areas

- 4.2.76 By international agreement, the UK Government has committed agreed to establish a network of Marine Protected Areas (MPAs) around England's coasts by 2012. The Marine and Coastal Access Act 2009 provides the legislative framework to do this through the designation of Marine Conservation Zones (MCZs) a new designation which supersedes the Marine Nature Reserve (MNR) designation. MCZs are areas that have been designated for the purpose of conserving marine flora or fauna, marine habitats or types of marine habitats or features of geological or geomorphological interest (UK Government *et al* 2010, 22).

4.2.77 Particularly relevant to HSC are Sub-sections 7 and 8 in Section 117 'Grounds for designation of MCZs' in the Marine and Coastal Access Act:

(7) In considering whether it is desirable to designate an area as an MCZ, the appropriate authority may have regard to any economic or social consequences of doing so

(8) The reference in subsection (7) to any social consequences of designating an area as an MCZ includes a reference to any consequences of doing so for any sites in that area (including any sites comprising, or comprising the remains of, any vessel, aircraft or marine installation) which are of historic or archaeological interest.

4.2.78 HSC can contribute to Marine Conservation Zone designation in several ways. It can contribute directly to the social consequences of such designation referred to in subsection 117(8) by providing the cultural context in which known sites of historic or archaeological interest are embedded: the background against which their interest and, if applicable, their heritage designation, has been adjudged and which may well be directly pertinent to the inherent setting and survival of the site of such interest themselves.

4.2.79 In a broader sense and of very clear relevance for HSC, and for the landward perspective of HLC, under the Nagoya Protocol for Biodiversity in October 2010, the UK Government made the commitment in its 2020 targets that the global network of Marine Protected Areas (MPAs) will be 'integrated into the wider landscape and seascapes'. The UK's domestic contribution to that global network will be the forthcoming coherent network of MCZs by the end of 2012. Confirmation of the Nagoya commitment was made by Defra Minister Richard Benyon MP in January 2011 (<http://services.parliament.uk/hansard/Commons/ByDate/20110119/writtenanswers/part003.html>) As the European Landscape Convention (ELC) is also in force in the UK, under ELC Article 7, its definition of landscape comes into play here for the UK's work in respect of both domestic and international MPAs

4.2.80 As HLC and HSC directly address cultural landscape and seascape issues, underpinned by common principles and directly in accord the ELC Articles and definitions throughout land, coast and sea, the extensive coverage by HSC and HLC databases will make a major contribution in providing a framework and content for MCZs' landscape/seascape integration.

4.2.81 Areas of Outstanding Natural Beauty (AONBs) were brought into being by the National Parks and Access to the Countryside Act of 1949. The Countryside and Rights of Way Act 2000 strengthened the conservation and management of AONBs in partnership with local authorities. Characterisation of the cultural dimension of the marine and coastal landscape plays a key role in the development of

management plans for the AONBs, especially with the legal recognition that 'Natural Beauty' can include the result of man's management of the land.

4.2.82 The intimate inter-relationships between historical and natural processes in shaping our landscape perceptions are recognised by the ELC and widely by those charged with managing the coastal and marine environment. The extension of that inter-relationship to landscape and seascape, as also noted by the ELC, is perhaps less fully recognised. The impact of human activities over time can affect a wide range of aspects of the natural environment including biodiversity, the movement of sand along beaches and dunes, or the change in habitats along rivers and estuaries. Similarly coastal and marine habitat management is also a historic environment action in the same way as the management of the historic environment has impacts on natural habitats that must be taken into account. Just as the effects of man's management have left a cultural imprint on the *environment* everywhere, so too that cultural imprint has shaped the cultural perceptions in our minds of *landscape* and, where it involves the sea, *seascape*.

4.2.83 The character of that cultural imprint is illustrated through the HSC approach to characterising the coastal and marine landscape, reflecting not only the more obvious human activities such as industry and leisure, but all those which have played roles in shaping the present, everywhere, whether deliberate or unintentional, active or passive. HSC recognises the imprints of historic cultural process as a dimension of the environment and our cultural perceptions of it. It is necessary for informing broader environmental understandings, highlighting the value, through HSC's GIS platform, of enabling its interoperability with other environmental spatial databases.

4.3 *Data Management*

4.3.1 HSC seeks to reflect best practice for data management and is compiled in accordance with Guidelines for English Heritage Projects involving GIS (Froggatt, 2004). On a wider scale HSC also ties in with the principles of the EC integrated maritime policy which included a strong data and knowledge base.

4.3.2 English Heritage are also working closely with the Marine Environmental Data Information Network (MEDIN) alongside other partners from the private and public sector, committed to improving access to marine data (see <http://www.oceannet.org/>).

4.3.3 MEDIN aims to

- Provide a data management and access framework for the UK marine data community;
- Develop marine data management standards, and protocols;
- Contribute to the marine component of the geospatial strategy for the UK;

and

- Recommend actions and map progress towards achieving coordination of management of UK Marine Data.

4.3.4 HSC contributes towards MEDIN objectives by addressing these major government priorities:

- Marine data will be made accessible to the community in a format that is useful for all stakeholders; and
- Marine geospatial analysis will be undertaken through data enhancement and improving data quality which will enable integration of natural and historical environments datasets to allow informed decisions towards development control caseworks.

Research

4.3.5 HSC has considerable potential to be used in conjunction with other environmental themes and other heritage related data such as the Marine ALSF database produced by ABPMer (<http://www.marinealsf.org.uk/>), the AHDS databases, and deskbased research, to assess gaps and coverage in research themes across England's coastal and marine zones. The provision of an area-based cultural heritage output which is interoperable with other GIS databases will enable the comparison between datasets which could not previously be viewed together.

4.3.6 The fundamental gaps in knowledge of the marine environment which we still need to fill were specifically identified by Charting Progress 2 (DEFRA 2010a). This significantly focused on the pressures related to marine activity and their contributions to social values, noting that 'evidence on cultural and historic values of the marine environment is patchy' (ibid). HSC will contribute directly to addressing that.

4.4 *Public Engagement and Education*

4.4.1 Raising levels of public understanding, engagement and appreciation of the historic cultural dimension of the marine environment are some of the main aims of both HSC and HLC. As such they align closely with the inclusive approach to landscape embodied by the European Landscape Convention (ELC) which requires ratifying states 'to recognise landscapes in law as an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity' (Council of Europe, 2000, Article 5).

4.4.2 In line with that, HSC can serve as a framework and resource for outreach and improving public awareness of the marine historic environment. The Character Type texts in particular provides a valuable educational resource tool, consistently

structured and in comprehensible language, conveying information on the historic character of everyone's familiar or favourite areas of the coast and sea. HSC carries the message that everywhere has historic character: the typical and commonplace as well as the rare and the special: all that is familiar and distinctive, whether highly valued or not, has relevance and is covered by HSC and HLC. It has meaning for everyone who inhabits, uses or has any engagement with the coast or the sea.

- 4.4.3 The main outputs from England's eventual national HSC database, its GIS mapping and its linked Character Type texts, are to be curated and made available online in user-friendly formats through the National Monument Record Centre (NMRC) at Swindon, with the digital products from its contributory projects made available on the Archaeological Data Service (ADS) website.
- 4.4.4 The Draft Marine Policy Statement (DCMS 2010) notes the need to emphasise the societal benefits of the marine area and specifically the historic environment within. One of the high level marine objectives set out in the statement was that 'people appreciate the diversity of the marine environment, its seascapes, its natural and cultural heritage, and its resources.' It specifies that heritage assets should be enjoyed for the quality of life they bring to this and future generations and opportunities should be taken to contribute to our knowledge and understanding of our past by capturing evidence from the historic environment and making this publicly available (DEFRA 2010b, 35).
- 4.4.5 The non-technical texts about HSC's Character Types provide a valuable resource as an educational tool, improving access to information on the historical character of the coastal and marine environment. The development of the concept of character assessment meets the needs of government to better understand and promote the historic environment on a broader scale, encouraging the involvement of local communities in conservation issues.
- 4.4.6 The coastal access provisions of the Marine and Coastal Access Act 2009 will present an opportunity for using HSC and HLC as an information resource on the multiple landward and maritime cultural perspectives that bear on the planned coastal access route, such information being disseminated both by the traditional static information boards but more imaginatively perhaps through information resources provided online or through mobile phones. Information provision along the route would have even greater effectiveness if linked to national resources such as the proposed NMRC HSC interfaces, or to local educational and community based initiatives designed to enhance local communities' current awareness of the landscape character and perceptions of the areas in which they live and work, for example in Landscape Partnership Scheme projects.

5 CASE STUDIES

5.1.1 Two case studies were selected for consideration in consultation with the Project Management Board. These are intended to demonstrate the application of HSC to marine and coastal planning contexts as discussed above. The case studies relate to issues which are particularly pertinent to the East Anglian region.

5.1.2 The case studies seek to demonstrate the role of HSC in coastal planning, taking into account the facets of ICZM, as well as considering offshore licensing which is considered in great depth in the marine and Coastal Access Act 2009.

5.1.3 The case studies selected to showcase these issues are:

- The Suffolk Coast and Heaths AONB Management Plan
- Marine Aggregates Dredging Licensing

5.1.4 The results of each case study are described below.

5.2 *Case Study 1 – The Suffolk Coast and Heaths AONB Management Plan*

Introduction

5.2.1 This case study will consider the roles of HSC in informing the Management Plan for the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB) covering the period 2008-2013 (<http://www.suffolkcoastandheaths.org/downloads.asp?PageId=161>). AONBs are landscapes that receive special protection from the UK government with a primary purpose of conserving and enhancing natural beauty. Natural England states that the evaluation of natural beauty is a complex exercise which incorporates a number of factors. Notably these include cultural heritage features and cultural associations (http://www.naturalengland.org.uk/Images/NEBBR1801Annex%201_tcm6-15133.pdf). As such management of AONBs is based on a holistic landscape approach in which characterisations of the landscape and its human cultural dimension form essential management tools. This is reflected in Section 2 of the Management Plan being entitled ‘Landscape Character’.

5.2.2 As its title suggests the Suffolk Coast and Heaths AONB has been designated as a result of its distinctive coastal, predominantly heathland, location adjacent to the North Sea.. Specific cultural characterisation of the marine and coastal environment is therefore crucial to its management and to give context to its ‘outstanding’ qualities for which it has been designated: making explicit the background from which it ‘stands out’.

- 5.2.3 As with all coastal areas, it is one that generates many overlapping perceptions, both land and marine based. An understanding through HSC of the maritime cultural processes that have shaped its present character are therefore necessary to complement that of the land, through HLC, to inform its management.
- 5.2.4 The AONB covers 403 square kilometres of coastal land stretching from Kessingland in the north to the River Stour in the south. In addition the Management Plan also considers the whole of the Shotley peninsula and an area to the south of the River Stour that the AONB partnership wishes to see designated as part of the AONB. The Plan also incorporates the Suffolk Heritage Coast which is largely contained in the area of the AONB.
- 5.2.5 The AONB management plan fits into the wider context of statutory and non-statutory plans, strategies, legislation and policies at international, national, regional and local level. This includes the European Landscape Convention (ELC), Countryside and Rights of Way Act 2000 (CRoW), the SEA and EIA Directives, the EU's ICZM Recommendation, Shoreline Management Plans (SMPs), Biodiversity Action Plans (BAPs), Geodiversity Action Plans and Planning Policy Statements (PPS). The CRoW includes a requirement to review the management plan every five years; the current plan covers the period 2008-2013. The Marine and Coastal Access Act (2009), which came into force after its production, will therefore have considerable relevance to the Plan's implementation and next Review.
- 5.2.6 Integrated Coastal Zone Management (ICZM) is identified as a local priority for Suffolk (plan, Part 2 (3.25)). So far the SMPs and estuarine strategies have been driven primarily by the need for flood risk management and protection of the land. However the plan makes it clear that a more inclusive and integrated vision for the coastline needs to be developed, in line with Defra's policy emphases for more adaptive strategies to respond to the effects of climate change (Defra 2009c).

Aims of the Plan

- 5.2.7 The fundamental aims of the Management Plan are defined by the requirements of the CRoW Act. These include co-ordinating the actions of the organisations that make up the AONB partnership and setting up a framework for any organisation or individual whose activities will have an impact on the objectives for the area (Plan, Part 1 (1.1.2)).
- 5.2.8 The Plan also sets targets for action, especially where it is important for organisations to work together or where action may fall between responsibilities (ibid). It recognises monitoring needed to identify changes occurring within the AONB and the impacts of management. It aims to achieve these objectives whilst taking account of the needs of agriculture, forestry and other rural industries, as well as the socio-economic needs of the local community. It also aims to promote

sustainable forms of development that conserve and enhance the environment and to consider the demand for recreation.

- 5.2.9 At the heart of these aims is the requirement to define the evidence base, in character and other terms, upon which management policies can be formulated. Here both HSC and HLC would be valuable additions to the current set of informative tools, providing baseline information.
- 5.2.10 The Action Plan of the Management Plan identifies three long-term key requirements arising from the purpose of AONB designation. These are:
- Requirement A:
- To conserve and enhance natural beauty
 - To maintain the special qualities of the landscape.
- Requirement B:
- To manage the assets and resources of the AONB in a sustainable way
 - Seeking to meet environmental, economic and social needs.
- Requirement C:
- To meet the demand for recreation where this is consistent with the conservation of natural beauty and the management of the land
 - Helping people enjoy, understand and value of the AONB.
- 5.2.11 To meet these requirements, the Plan proposes a series of 14 aims that can be seen as the medium term targets; these are discussed below.
- 5.2.12 The short term aims of the plan are expressed as a series of 38 objectives, which fit into these wider aims, each addressed by its own action points.

HSC Roles in respect of the AONB Management Plan

- 5.2.13 Overall there is a clear relationship between HSC and the AONB Management Plan. The Plan is wholly based on landscape, stating that it is the landscape of the AONB which give it its specific character (Plan, Section 2 (2.1.3)) as asserted by HSC. It recognises that the character of any landscape comes from the interaction of a variety of factors including physical features, land cover and *current human usage*, all of which are incorporated into the HSC spatial dataset . It also agrees with the concepts of HLC/HSC by noting that landscape will be influenced by the way people have settled and developed the area over hundreds or even thousands of years (ibid).
- 5.2.14 The plan details a series of character types taken directly from the Landscape Character Assessment (LCA) for the area which integrates well with both the HLC and HSC. The incorporated vision statement for 2028 seeks to retain the character recognised in the original designation (Plan, Section 4 (4.2.1)).

5.2.15 Areas of relevance of HSC to the AONB management plan are considered below in relation to the individual aims and objectives.

Aim 1: Develop mitigation and adaptation techniques to climate change that will conserve the special qualities of the AONB

5.2.16 *Objective 1.1* Improve understanding of the implications of climate change on example species, habitats, landscapes and the characteristics of the AONB.

5.2.17 HSC is a valuable source of information for establishing what the special qualities of the AONB are by bringing together many different datasets and viewpoints, from the strategic to the local and by considering how the landscape has been shaped. It helps to assess why they are special, and for providing the necessary evidence base on what constitutes the landscape character and its variation across the AONB itself, all necessary baseline data for Objective 1.1. Only once that baseline data for the AONB's landscapes and characteristics are established can the implications of climate change on them be better understood.

5.2.18 In addition HSC, along with HLC, can be used to broaden the perspective of the wider landscape character impacted by coastal change which requires mitigation. 'Outstanding' character has meaning only against the broader context of the typical.

5.2.19 Overall HSC has a role in providing an understanding of the cultural activity in shaping biodiversity patterning and knock-on effects on the AONB's biodiversity from changing human settlement and activity patterns due to climate change.

Aim 2: Integrate planning and management of the coast and estuaries to meet AONB objectives so that all interests are recognised and the special qualities of the AONB are conserved

5.2.20 *Objective 2.1:* Develop an integrated plan for the sustainable management of the coastal zone that incorporates shoreline and estuary flood defence and coast protection and is recognised in the Local Development Framework.

5.2.21 *Objective 2.2* Establish the Suffolk Coast and Heaths AONB Partnership as a local champion for ICZM

5.2.22 These two objectives can be considered together in the context of how HSC can contribute towards implementing the management plan. The approach taken by HSC to consider the character of the entire landscape and its coverage of coastal land, intertidal and marine areas would enable its use in developing ICZM, as HSC can provide a comprehensive overview of all the issues relevant to ICZM.

5.2.23 The overlapping perspectives and common principles of HSC and HLC also make them crucial for championing ICZM in this context. The character of the AONB can be considered as a seamless landscape regardless of the terrestrial/marine boundary due to the spatial similarities of the two methods. In addition the use of

HSC and HLC in conjunction gives both the perspectives of the sea from land and land from sea.

- 5.2.24 HSC could be used in a proposed campaign that would enable local communities to identify what they value about the Suffolk coast and estuaries. HSC identifies specific coastal character types and the character texts discuss the values of each type and their amenities etc. Their non-technical texts means they could be readily used as a resource to raise awareness and prompt people to formulate their own perceptions of landscape. Alongside our cultural understanding in HSC/HLC this could ultimately produce interpretation that improves understanding about the issues facing the coast and estuaries for (a) schools, (b) decision makers, and (c) the public.

Aim 3: Conserve landscape character and enhance the distinctive nature of the AONB

- 5.2.25 *Objective 3.1.* Refine understanding and clarify the elements that make up the distinctive character of the local landscape.
- 5.2.26 One of the action points for this objective is the development of bespoke landscape type descriptions for the AONB in an accessible format and language for use within the community. As outlined above this type of descriptions have been created during the HSC process from a maritime perspective and can be adapted and integrated with HLC to ensure the understanding of local landscape character is culturally informed and respects the wider roles of cultural forces in shaping all aspects of landscape..

Aim 4: Conserve biodiversity and lessen fragmentation of habitats

- 5.2.27 Once again HSC can act as baseline data to inform the processes employed to achieve the aim. For example the action points include devising a strategy as part of an ICZM approach to maintain and expand BAP coastal habitats. HSC can help to identify these habitats and put them in the context of the wider landscape.
- 5.2.28 Biodiversity patterning itself is a cultural artefact which reflects patterns of human activity past and present. HSC and HLC can significantly improve knowledge of effects of human activity on the biodiversity of the AONB. By doing so it is then possible to move forwards with strategies to manage this change.

Aim 5: Conserve the historic resources of the area including landscapes, archaeology and the built environment

- 5.2.29 Two objectives are identified within this aim.

- 5.2.30 *Objective 5.1* Develop Historic Landscape Characterisation as a tool to further historic asset management.
- 5.2.31 This objective is mainly concerned with revision of the Suffolk HLC however the management plan was created before the regional HSC was available. Its availability is a factor which should be taken into account when drafting the subsequent management plan, post 2013.
- 5.2.32 This aim and the overall plan would benefit hugely from the addition and integration of HLC and HSC to give comprehensive coverage of the AONB. The value of HLC has clearly been recognised within the management plan. The addition of HSC would address the overlapping perspectives of land and sea which occur in the coastal zone, creating a seamless approach to characterisation and the historic environment as specified within the aim. Such integration will be essential to provide the breadth of cultural understanding necessary for informing the sustainable conservation of the coastal historic environment.
- 5.2.33 *Objective 5.2* Improve awareness of the range and importance of the historic assets of the AONB.
- 5.2.34 HSC can be a key resource for improving awareness of the historic environment in the AONB. It can give context to the ‘special’ features or point data which we are familiar with but which can represent the processes of preservation, exposure and fieldwork bias. It represents the typical and the commonplace which more fully represent human activity in the coastal zone.
- 5.2.35 In its comprehensive coverage, HSC brings to the fore features or areas on land with a distinct maritime character which may or may not equate with their character as commonly understood from a land-based perspective. These include, for example, chimneys or churches used by mariners as navigational daymarks and areas of historic aquaculture, flood and erosion defences, or land reclaimed from the sea.
- 5.2.36 In terms of raising public awareness, HSC, with its accompanying explanatory texts on each character type, can be used as a resource for generating educational and outreach information. The texts provide an illustrated account of the historic character of the area in non-technical terms. The Character texts and GIS can be used within the AONB team, as well as disseminated to the wider public including schools.
- Aim 6: Manage farming and forestry in a sustainable way that enhances landscape and historic character, biodiversity and geodiversity*
- 5.2.37 Farming and forestry are key to the AONB area and to the region as a whole. As such their effect on the landscape and seascape is enormous. HSC provides the

evidence base for the historic character of these processes' present expressions in areas of such as coastal rough ground, reclaimed land and woodland.

- 5.2.38 HSC used in conjunction with HLC offer baseline information on landscape and historic character: a major part of the evidence base necessary for assessing the proposals and actions of land managers in respect of this Aim. From its cultural connectivity, HSC with HLC and particularly the non-technical texts are highly relevant to Objective 6.3 – improve the awareness and understanding of farmers on how they contribute to the conservation and enhancement of the special qualities of the AONB. This is particularly applicable to the proposed production of a promotional leaflet for landowners.

Aim 8: Conserve the geodiversity of the area

- 5.2.39 *Objective 8.2* Improve awareness of the links between landscape and geology, and forms and natural processes
- 5.2.40 HSC and HLC provide the advantage of comprehensive area-based cultural heritage information on a GIS platform inter-operable with geological and geomorphologic GIS databases. Together they furnish the cultural context for the expression of geodiversity in landscape and by which it is understood by people in their landscape perceptions. In those respects HSC, along with HLC, are core both to the messages sought by this Objective and to their connectivity with the people they are aimed at.

Aim 9: Have a built environment that reflects local character and is of a scale and form appropriate to the AONB

- 5.2.41 HSC, with HLC, provides the evidence base for the local cultural character which lies at the heart of this Aim.. The GIS and character texts which form part of the HSC for the area address this in a variety of ways and will work in complement with similar data from the HLC for this coastal area. This will particularly facilitate understanding of the maritime character of much of the built historic environment in the AONB such as the presence of lighthouses and daymarks, traditional fishermen's cottages and roofs thatched using reeds.
- 5.2.42 HSC's consideration of the typical allows it to give provide evidence-based context to our evaluation of what are deemed 'special' features in the built environment and provides a landscape framework to better understand the patterning and potential future uses of those features.
- 5.2.43 This is also relevant to other development considerations, such as those affecting ports and harbours. The baseline information of HSC offers an understanding on historic cultural landscape character which can be applied when assessing whether such developments are in accord with character-based planning policies.

Aim 10: Have the tourism industry and the Suffolk tourism brand based on sustainable practices

- 5.2.44 Branding is all about distinctiveness, HSC allows us to understand distinctiveness, its cultural dimension and sustainability in terms of maintaining cultural legibility, in a manner which deals with the typical and is readily communicable to the wider public.
- 5.2.45 In providing the evidence base on the AONB's varying landscape and seascape character, HSC has much to inform the provision of tourist information and area branding. Landscape and seascape are comprehensive and perception-based, providing an ideal platform for linking directly with visitors' perceptions of the area.

Aim 11: Have access and recreation provision that respects biodiversity, landscape, geodiversity and historic assets

- 5.2.46 *Objective 11.1* Implement the Rights of Way Improvement Plan (ROWIP)
- 5.2.47 A major element of this objective is to publish a number of route guides for walkers and 'explorer' footpath guides to the area. HSC of the areas the routes pass through, with HLC, can ensure these guides capture the breadth of cultural landscape perspectives bearing on the coastal area, to landward, seaward and along the coast, highlighting the close inter-relations between the cultural, ecological, geological and geomorphological aspects that combine to influence the landscape perceptions of those using the footpath routes. With particular reference to historic assets, using HSC with HLC in this manner would enhance the path users' understanding of the past and present activities which led to such assets' creation and survival in the present landscape surrounding such routes.
- 5.2.48 This Objective has strong relevance to the Marine and Coastal Access Act 2009 as it establishes foundations within the AONB for meeting the Act's coastal access provisions in a manner which considers the landscape and people's perceptions of it from the outset. HSC will be informative here in two major respects: in providing the access users with a broader cultural landscape understanding as detailed above and in providing a major part of the evidence base to identify coastal access routes which respect and harmonise with the existing character of the landscape.
- 5.2.49 *Objective 11.3* Promote the need for, and the benefits of, integrated/multiobjective management of green space.
- 5.2.50 This objective requires an area-based understanding of formal and informal recreation. The HSC database shows such areas are dominated by recreational use, further detailed in its character texts. As such the HSC would be very useful in informing and guiding strategies relating to green space.

- 5.2.51 HSC in conjunction with HLC to examine historic patterns of publicly accessible open space, using previous character attributes and time depth of the present character; looking at how they have influenced present character and at ways in which green infrastructure planning can build on such patterning to create strategies which can retain local character and distinctiveness.

Aim 12: Provide interpretation that improves understanding, guides behaviour and helps people to enjoy the AONB

- 5.2.52 *Objective 12.1* Deliver consistent messages about the importance and value of the AONB.
- 5.2.53 This objective is mainly concerned with disseminating relevant information relating to the importance of the AONB. In providing an understanding of cultural character across the entire landscape and seascape, from the coast to marine, HSC and HLC give an evidence base to inform resources designed to raise awareness of the significance and value of different character types within the landscape. HLC and HSC can contextualise the AONB by showing how different areas are shaped by a differing mix of cultural processes. This can be communicated by the HSC texts.
- 5.2.54 *Objective 12.3* Increase the provision of interpretation to raise understanding about the management of the AONB.
- 5.2.55 HSC can contribute strongly to this objective. One of the suggested action points is to run a programme of interpretation about key elements of the coast. HSC's assessment and its non-technical texts, along with similar information contained in the Suffolk HLC, offer baseline cultural information from which that programme can show how it ascribes measures of value and significance, and assesses sensitivity issues in developing its management regime. Using HLC and HSC in this way will also show how that management respects the overlapping land and maritime perspectives that combine uniquely along the coast.
- 5.2.56 The user-friendly HSC (and HLC) texts can also be used to provide information for the coastal access route in a number of different formats (eg static boards, web, information packs).
- 5.2.57 Additionally, support for heathland management is presented as a priority: HSC's non-technical texts show clearly how such heathland is as much a product of cultural activity and management as it is of natural processes.

Aim 13: Support community involvement in the active conservation and enhancement of the AONB

- 5.2.58 *Objective 13.3* Promote the need to involve relevant stakeholders in decisions about the management of the AONB.

5.2.59 HSC, and HLC, are inherently designed to engage with stakeholder interests and provide a framework facilitating their involvement. They communicate in cultural terms and form the meeting point of, and articulate many differing landscape perspectives. The non-technical texts in particular provide information on character types within the AONB in an accessible and easily understandable way. These can allow the public to form their own perceptions with which to inform the management of the AONB.

Conclusions

5.2.60 This review has illustrated that HSC, especially when used in conjunction with the existing HLC, has considerable and varied relevance to the aims of the Suffolk Coast and Heaths Management Plan. It encompasses the maritime perspective and complements the land-based view of HLC, therefore having particular relevance for this AONB given its strong coastal coverage and character.

5.2.61 HSC and HLC will provide an important part of the evidence-base for all of the plan's character-focussed policies, enabling their implementation to be informed by a full and rounded understanding on the cultural context which shapes the expression of all aspects within the AONB, whether they relate to the more traditionally understood cultural heritage themes or to ecological, geological or geomorphological considerations. It also has strong relevance to the need for implementing sustainable policies which will benefit the local community and rural industries.

5.2.62 HSC's comprehensive coverage and cultural perspective give it an immediate resonance with everyone's landscape perspectives of the area. People are cultural and for those who live or work in or visit the AONB, HSC together with HLC have bearing on everyone's familiar area of it. As a result it provides a valuable tool for communicating and raising awareness of wider landscape issues and their relevance to the community. The Character Type texts especially can play an important role in disseminating this information: their concise, jargon free style gives them a format readily assimilable to AONB partners, stakeholders, the general public and school children alike.

5.3 *Case Study 2 - Marine Aggregates Dredging Licensing*

Introduction

- 5.3.1 This case study seeks to demonstrate the roles of HSC in informing the marine aggregates dredging licensing process. Most significantly this will consider the planning and licensing stages of this process but also the wider procedures within the industry. The study is based on a review of guidance documents and legislation outlining the processes involved in marine aggregates dredging and the requirements and responsibilities of the marine minerals sector. It will consider these elements with particular reference to, and exemplars from, the East Anglian marine region.
- 5.3.2 Marine sand and gravel currently makes a very large contribution to meeting the nation's demand for construction aggregates, supplying approximately 21% of all sand and gravel used in England and Wales (http://www.thecrownestate.co.uk/marine_aggregates). In south east England the industry is particularly crucial, supplying 33% of sand and gravel (ibid). In 2009 the East Coast dredging area produced nearly 7 million tonnes of aggregates, almost twice that of any other area (http://www.thecrownestate.co.uk/aggregate_reserves_2009.pdf).
- 5.3.3 Marine aggregates dredging is actively encouraged by the UK government as a matter of sustainability. They advocate that marine-dredged sand and gravel can be identified and exploited within the principles of sustainable development from environmentally acceptable sources. For example, ships can deliver aggregates directly to wharves in urban areas, eliminating road transport. In 2004 it is estimated this saved 340,000 lorry trips in London alone (ibid). Marine aggregates can also be used in beach replenishment schemes, pumped directly from dredgers onto beaches. This can provide flood protection as well as enhancing the amenity value and economy of an area (ibid). It is the concept of 'environmentally acceptable sources' which applies to protection of both the natural and historic environment.
- 5.3.4 National objectives for mineral planning as outlined in Mineral Policy Statement 1 (MPS1), which covers all mineral extraction both on and offshore, include the need to "*protect internationally and nationally designated areas of landscape value and nature conservation importance from minerals development*". MPS1 suggests that the minerals industry should "*consider carefully mineral proposals within or likely to affect regional and local sites of biodiversity, geodiversity, landscape, historical and cultural heritage*" and "*adopt a presumption in favour of the preservation of listed buildings, nationally important archaeological remains (including Scheduled Ancient Monuments) in situ and their settings, if mineral proposals would cause*

damage or have a significant impact on them.”. As such controls on dredging must be implemented in order to safeguard these features.

The current context

- 5.3.5 This case study is particularly pertinent given the establishment of a new set of procedures for marine planning and licensing under the Marine Management Organisation (MMO) established under the Marine and Coastal Access Act 2009 (M&CA Act). The study partially updates the information presented in the case study on Regional Environmental Assessment (REA) for marine aggregates previously produced by the ‘Demonstrating the Method’ HSC project (Seazone 2009).
- 5.3.6 Marine mineral dredging has been controlled through the ‘Environmental Impact Assessment and Natural Habitats(Extraction of Minerals by Marine Dredging) (England and Northern Ireland) Regulations 2007’ since its inception, and was implemented by the Marine and Fisheries Agency (MFA) until 2010. Prior to this dredging was controlled by the more informal Government View (GV) (known as the ‘Blue Book’). At present the majority of marine mineral extraction licenses are GVs, however most will be subject to renewal by the end of 2013. As a condition of both these procedures most applications have been subject to an Environmental Impact Assessment (EIA) drawing together an assessment of a project's likely significant environmental effects, presented in an Environmental Statement (ES).
- 5.3.7 The establishment of the MMO has brought about the integration of the majority of marine decision making powers and delivery mechanisms. The organisation is now responsible for implementing the new planning and marine licensing systems. Under the M&CA Act decisions on the licensing of minerals extraction will be taken in accordance with marine planning documents such as The Marine Policy Statement and Marine Plans. The new marine license required for removals from the seabed came into effect in early 2011.
- 5.3.8 Under the new regime anyone wishing to extract minerals from the seabed must obtain both a commercial license, issued by the Crown Estate as landowner of the seabed, and a dredging permission from the MMO. The commercial license will not be issued without the dredging permission. The dredging permission will still be dependent on an EIA in all but exceptional circumstances.

Obtaining a dredging permission

- 5.3.9 There are a number of stages involved in obtaining a dredging permission from the MMO; some are optional and others mandatory. These stages are set out below.

1. *Screening stage* (optional). Dredging operators may apply to the MMO for a screening determination as to whether or not an EIA or appropriate assessment (AA) will be needed for the proposal (see below).
2. *Pre application stage – scoping* (optional). Operators can apply to the MMO for pre-application advice on the content of their ES. The MMO will then instruct the Centre for Environment, Fisheries & Aquaculture Science (Cefas) to engage with the operator. A formal scoping opinion may be issued by the MMO if required, giving an overview on what will be required in the ES.
3. *Application stage* (mandatory). Operators should submit a fully worked up dredging application and ES to the MMO. The MMO will then reach a decision following a period of consultation with relevant bodies.
4. *Additional procedures for habitat projects* (circumstances dependent). If the dredging operation is likely to have a significant effect on a European site of nature conservation importance the relevant authority (MMO or regional body) must produce an AA of the implications.
5. *Monitoring stage* (mandatory). Once dredging permission is granted the schedule of conditions will contain mitigation and monitoring measures designed to reduce the environmental impacts of the dredging. These include pre-dredge monitoring, operational monitoring (during dredging operations), post-dredge monitoring, electric monitoring system (EMS) on dredging vessels and reviews of the acquired evidence which may result in recommendations for operational changes.
6. *Variations to dredging permissions* (circumstances dependent). The operator may apply to the MMO to modify the terms of the permission. This must be screened to assess whether a new ES or AA is required.

Incorporating HSC into the licensing process

- 5.3.10 The HSC output comprises a GIS characterisation and text descriptions of each character type. The text descriptions support the GIS by reviewing the cultural processes that have, through time, shaped present expressions of seascape character, at both a regional and a national level. The texts are deliberately non-technical, designed to be readily understood by other specialists and the interested public alike.
- 5.3.11 Each stage of the licensing process is considered below and assessed with regards to the relevance and value of HSC.

Screening Stage

- 5.3.12 Although this stage is optional its purpose is to establish if an EIA or (AA) is required. EIA will be required in all but exceptional circumstances however the MMO is bound to consult key consultees to establish the requirement. In the case of historic environment this would fall to English Heritage (EH). An AA applies only to dredging which may impact on a European site of nature conservation importance.
- 5.3.13 At this stage HSC will provide EH with a rapid, strategic level overview of the historic cultural character of the dredging area and its wider seascape context. The GIS also provides immediate access to a comprehensive spatial representation of the character and extent of human activity in the area, its known imprint and its likely suite of features yet to be discovered or affected if dredging occurs in the proposed area. Overall the HSC data would contribute to a rapid assessment of the extent to which the historic environment may be affected and therefore contribute its part to EH's response regarding EIA/AA.

Scoping stage

- 5.3.14 Like the screening stage, the scoping stage is also optional although it is highly recommended to dredging operators in order that they might be fully prepared when submitting the ES with the final dredging application.
- 5.3.15 One aspect of this stage which can utilise HSC is the optional issue of a formal scoping opinion from the MMO, based on advice from the relevant bodies. This would outline, among other things the environmental features likely to be affected by the proposed dredging. HSC could therefore be used by EH and/or the MMO in a similar manner to the screening stage, providing context for making a preliminary rapid and strategic level assessment of the area's historic cultural character and aspects needing further research to build necessary confidence in our knowledge base of the area. The HSC will identify the broad activities and key features dominating the cultural character of the marine environment in the relevant area, and can inform an assessment of the likely suites of features typical of those activities but yet to be discovered or affected if dredging occurs.
- 5.3.16 The crucial element of this stage is the full development of the dredging proposal by the operator in advance of the final application, regardless of whether pre-application advice was sought. This involves consultation with key stakeholders and statutory bodies in order to identify key issues of concern in advance of undertaking an EIA which should aim to resolve these issues. As submission of the ES is part of the application stage this is considered in more detail below.

Application stage

- 5.3.17 At this stage a fully worked up dredging application and ES must be submitted to the MMO by the dredging operator. It is the preparation of the EIA and ES, and therefore this stage, to which HSC can be crucial. As outlined above the EIA

Directive dictates that all proposals which are likely to have significant effects on the environment are subject to an assessment of these effects. The resulting ES can be informed by HSC in a number of ways.

- 5.3.18 Within the Regulations one of the minimum requirements of the ES is inclusion of the “*data required to identify and assess the main effects which the project is likely to have on the environment*”. Additional requirements include “*a description of the aspects of the environment likely to be significantly affected by the proposed project including...population...material assets, including architectural and archaeological heritage, landscape and the inter relationship between [these] factors*” *The Environmental Impact Assessment and Natural Habitats (Extraction of Minerals by Marine Dredging) (England and Northern Ireland) Regulations 2007* (<http://www.legislation.gov.uk/ukSI/2007/1067/made>).
- 5.3.19 HSC has the advantage of providing a comprehensive overview of various types of human activity including industrial activity, recreation, cultural topography as well as the more traditionally considered aspects of the cultural heritage which are referenced within the regulations. As such the GIS in particular could be used to rapidly review large quantities of varying information about different aspects of the environment, in conjunction with other data themes when preparing Environmental Statements. The GIS platform will ease the process of interoperability between different environmental datasets, allowing consideration of their inter-relationships during this process.
- 5.3.20 As an example, an EIA must consider commercial fishing in terms of its overall character and levels of activity. Although the MMO and regional fishing organisations should be able to provide detailed information this is often patchy. The HSC can bring this information together with other cultural activity in a spatial representation, indicating areas of fishing dominance and identifying potential areas of conflict with proposed development.. HSC can give broad cultural context to this character of activity within a comprehensive spatial view.
- 5.3.21 HSC specifically fulfils requirements for inputs on the ‘Landscape’ and ‘cultural heritage’ themes for marine development proposals specified in the main EIA Directive of 1985 and since amended (<http://www.environmentcentre.com/rte.asp?id=85>). The landscape theme can be significantly enhanced to include cultural character through use of HLC and HSC in addition to visual impact assessment and the Seascape Character Assessment (SCA) approach currently being developed by Natural England (D Hooley pers. comm.). Cultural Heritage is addressed through summary of the available data and placement of this data into its broader landscape and cultural context.
- 5.3.22 In addition the use of HSC will facilitate the overlay and comparison with other themed data sources and map-bases which can be used to inform detailed assessments of the relationships between these environmental aspects and the likely

effects of the dredging proposal on them. This can be particularly valuable at a local scale where HSC has identified a source which may not be nationally at high profile and therefore can escape the attention of an assessor. For example, in the East Anglian region a number of high resolution surveys have been carried out by Wessex Archaeology in Dredging Area 240, off the coast of Great Yarmouth, following the discovery of an assemblage of Palaeolithic tools (see Paleolandscape character text).

- 5.3.23 Crucially HSC will facilitate a strategic-level area-based perspective on human activity and the cultural resources relevant at a regional scale. The EIA ES might focus on the immediate dredging area which can lead to the exclusion of relevant information in the wider area. HSC indicates that broader context, raising its profile and allowing the whole seascape to be taken into consideration.
- 5.3.24 This area-based approach has two main advantages with regards to EIA. Firstly it allows the EIA assessor to consider the broader cultural context which cannot be readily considered from a more limited scale data-capture for the assessment. In combination with the varied dataset which informs the HSC, its area-based perspective may also prompt a consideration of cumulative impacts which are often relevant over wide areas.
- 5.3.25 HSC's character-based approach also provides context for the point based data which informs EIA of the rare and the special which is known from the historic environment. This includes datasets such as the NMR and HER and the UKHO wrecks database. HSC at this project's scale highlights extensive dominant cultural imprints such as wreck concentrations and palaeolandscapes where data is available, describing their roles in relation to human activity in both the past and present. Ultimately HSC will be applied to the entire English coasts and seas but it is already providing both national and regional insights into the character and imprints of human activity which will have shaped the area in question and its setting.
- 5.3.26 Another relevant aspect of HSC for EIA is its comprehensive assessment of cultural character at the different main levels of the marine zone: sea surface, water column, sea-floor and sub-sea floor. An EIA may identify a single environmental impact for an environment type within the specified area. By considering the effects at different levels of the marine zone, separate and differing effects may be recognised at each level, leading to consideration of the complex impacts within the one area from the one proposed development.
- 5.3.27 The ES must also consider ways to lessen the environmental impact of dredging operations where potential impacts are recognised. The text descriptions may be useful in indicating likely effects of dredging on the historic environment and cultural seascape. The text sections considering processes of change and vulnerability may be particularly pertinent.

- 5.3.28 Any ES has to present and discuss alternative areas and the reasons for their dismissal. The HSC GIS can provide a rapid means of assessing baseline data on seascape character and inform the process of eliminating potentially unsuitable proposals at an early stage in the process. As with most applications of HSC however, such decision-making will require a further stage of value or significance ascription, or sensitivity assessment to be applied to the baseline HSC data.

Additional procedures for habitat projects

- 5.3.29 An AA must be produced if the dredging operations are likely to have a significant impact on a European site of nature conservation importance. This will take into account the advice of Natural England (NE) and/or the Joint Nature Conservation Committee (JNCC) as well as the ES submitted by the applicant.
- 5.3.30 HSC can be extremely useful in informing this process, the inter-operability of area-based cultural and natural environmental databases enabling an understanding to be gained of the shared patternings, and discrepancies, between cultural influences and the present expressions of the ecology and topography of an area.

Monitoring stage

- 5.3.31 Approved dredging permissions will be subject to both mitigation and monitoring measures as outlined above. At each stage of monitoring the MMO will approve specifications and reports through consultations with key consultees including EH.
- 5.3.32 The pre-dredge monitoring ascertains the condition of the seabed before it is dredged allowing the MMO to assess impact. Reference to the HSC GIS at this stage can allow rapid identification of the known historic character of the areas in question. The results of any surveys required may also be fed back into the HSC GIS to update it.
- 5.3.33 Operational monitoring can include a variety of different types of survey including the EMS. HSC can be used to contextualise the review of the information obtained, considering it in the context of the whole region and giving a cultural insight to ecological and topographical information. This would give greater dimension to assessment of impact.
- 5.3.34 Post-dredge monitoring assesses the seabed when dredging has ceased. Like operational monitoring this will produce information which can be enhanced and contextualised by the area-based cultural seascape perspective of HSC.
- 5.3.35 The regulations require substantive reviews of the dredging permission every five years. These should summarise the results and effectiveness of the monitoring and discuss any identified environmental impacts. These reviews should also include recommendations for variations to dredging or monitoring. Key consultees such as EH will be consulted during the reviews. HSC would have numerous roles throughout this process, incorporating many of the factors discussed in the

application stage. For example, the HSC GIS will allow rapid overreviews of wide ranging cultural information with which to compare monitoring data. The HSC will give a broader area-based perspective on human activity and the cultural resources on a regional and national scale throughout history.

Variations to dredging permissions

- 5.3.36 This stage is similar to the main Application stage as any variation required by the operator must be submitted to the MMO in order to assess whether a further EIA or AA is required. As such HSC will be relevant to this stage in exactly the same manner as to the Application stage.

Conclusions

- 5.3.37 As detailed above, there is significant scope for use of HSC in the dredging license application procedure and in particular the EIA process. The HSC products will be an important part of the evidence base for future EIAs and other aspects of the dredging license procedures. Use of HSC can provide an understanding of the cultural processes that have shaped the current seascape in and around areas for which aggregate dredging is being proposed. As EIA is required to consider a huge range of human activities and different themes of environment impact, understanding the many roles and imprints of cultural forces in shaping seascapes is crucial, not only in matters of traditional heritage concern such a shipwrecks but on other aspects too, such as expressions of marine topography and ecology . The information can highlight the close inter-relations between the cultural, ecological, geological and geomorphological aspects which cannot be neatly separated out when considering impacts on the marine and coastal environment.

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7 ACRONYMS AND ABBREVIATIONS

Abbreviations List

AA	Appropriate Assessment
ADS	Archaeological Data Service
AONB	Area of Outstanding Natural Beauty
ALSF	Aggregates Levy Sustainability Fund
BAP	Biodiversity Action Plan
CEFAS	Centre for Environment, Fisheries & Aquaculture Science
COWRIE	Collaborative Offshore Wind Research Into The Environment
CRoW	Countryside and Rights of way Act 2000
DCMS	Department for Culture, Media and Sport
DEFRA	Department for Environment, Food and Rural Affairs
DTLR	Department for Transport, Local Government and the Regions
EC	European Community
EEC	European Economic Community
EH	English Heritage
EIA	Environmental Impact Assessment
ELC	European Landscape Convention
EMS	Electronic Monitoring System
ES	Environmental Statement
EU	European Union
GIS	Geographical Information System
GV	Government View
HER	Historic Environment Record

HLC	Historic Landscape Characterisation
HSC	Historic Seascape Characterisation
ICZM	Integrated Coastal Zone Management
JNAPC	Joint Nautical Archaeology Policy Committee
JNCC	Joint Nature Conservation Committee
LCA	Landscape Character Assessment
LiDAR	Light Detection And Ranging
MCZ	Marine Conservation Zone
MEDIN	Marine Environmental Data and Information Network
MFA	Marine and Fisheries Agency
MMO	Marine Management Organization
MPA	Marine Protected Area
MPS	Marine Planning Statement
NE	Natural England
NMR	National Monuments record
OPSI	Office of Public Sector Information
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
REA	Regional Environmental Assessment
RCZAS	Rapid Coastal Zone Assessment Survey
ROWIP	Rights of Way Improvement Plan
RSS	Regional Spatial Strategies
SCA	Seascape Character Assessment
SEA	Strategic Environmental Assessment
SMP	Shoreline Management Plan
SSSI	Site of Special Scientific Interest
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UKHO	UK Hydrographic Office
UKMMAS	UK Marine Monitoring and Assessment Strategy

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