LDĀDESIGN

DORSET COAST

Landscape & Seascape Character Assessment

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SECTION 1

INTRODUCTION

West Bay Cliffs and Chesil Beach

1.1. INTRODUCTION

The Dorset Coast Land and Seascape Assessment is one of a number of studies being undertaken to inform the C-SCOPE Project (Combining Sea and Coastal Planning in Europe), which, together with a similar project in Heist-Zeebrugge in Belgium, represent pilot studies for this European funded project.

Initiated by the Dorset Coast Forum and the Coordination Centre for Integrated Coastal Zone Management Belgium, C-SCOPE is a three year INTERREG-funded project, which aims to achieve a seamless, integrated approach to management and planning within the land-sea interface. The main focus will be the development of marine plans at different scales using effective and proven stakeholder engagement. It will also develop an innovative and unique GIS-based planning tool to inform decision making and help to achieve sustainable coastal economies and environments.

The County of Dorset is a predominantly rural landscape with relatively few large towns and urban areas. The Dorset Coast is a distinctive, diverse and often spectacular landscape with sharp contrasts in character within a relatively small area, encompassing chalk/shale and vertical limestone cliffs with sheltered bays, dramatic headlands, caves and sweeping coastal views.

There is also significant historic interest representing millennia of human activity and settlement. The uses of the Dorset coast are varied including commercial fishing, military uses, recreation (diving, angling, sailing and other water sports), tourism, quarrying and minerals extraction, shipping and ports and renewable energy. All create opportunities as well as imposing potential pressures on landscape character and some may have effects on views and panoramas. The Study Area also encompasses the Dorset and East Devon Coast World Heritage Site (commonly known as the Jurassic Coast) and the Dorset Area of Outstanding Natural Beauty. Almost the entire coast, excluding urban areas, has either SPA, SAC or SSSI status reflecting its significant geological and biodiversity value. It will also host the 2012 Olympic Games sailing events in Weymouth Bay.

1.2. BACKGROUND TO THE DORSET COAST LANDSCAPE AND SEASCAPE CHARACTER ASSESSMENT

The objective of C-SCOPE is to develop a holistic approach to coastal and marine planning. It recognises that, whilst spatial planning of land has provided a useful decision making tool for several decades, it is a relatively new concept for the marine environment.

This project will also help to manage the many current and future pressures facing the Dorset coast from new development and climate change to competition for space from interests such as shipping, commercial fishing, minerals extraction, recreation and renewable energy.

As part of this process, it is intended that the Landscape and Seascape Assessment will take the form of a useable and accessible report, supported by GIS mapping, that will provide a sound evidence base to help inform a wide range of planning and management decisions.

The proposed strategies to manage change are based upon the definitions recommended in the European Landscape Convention which covers 'natural, rural, urban and peri-urban areas, which include land, inland water and marine areas.'

The Convention recommends that landscape policies should aim to 'protect, manage or plan' as defined below:

Landscape protection means: 'action to conserve and maintain the significant or characteristic features of a landscape, justified by the landscape's heritage value derived from its natural configuration and/or human activity';

Landscape management means: 'action from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes';

Landscape planning means: 'strong forward looking action to enhance, restore or create landscape'.

The definition of landscape includes seascape.

1.3. EXTENTS OF STUDY AREA

The extent of the study area is illustrated on Figure 1 and includes:

- Landward limits – comprising existing landscape character types, identified in the Dorset Landscape Character Assessment, that are contiguous with the coast;
- Seaward limits – comprising marine areas extending beyond the 12nm territorial sea limit as far as the international boundary with France;
- East-west limits – a line perpendicular to the coastline from the Dorset County boundaries on the western and eastern edges. The visual context of neighbouring stretches of coastline outside the study area has also been described, where this is relevant to landscape character.

1.4. APPROACH AND METHODOLOGY

1.4.1 INTRODUCTION

The approach to the project follows best practice landscape character assessment guidance[1] and has been carried out in 5 stages. The methodology employed on the project varies from that originally anticipated and identified by Dorset Coast Forum (DCF) within their briefing document for the project and has been developed and refined through dialogue and discussion with the project Steering Group, ensuring that the findings and outputs are fit for purpose and based on a robust and transparent assessment process.

A brief description of individual stages and project outputs is presented below and are illustrated in the Flow Diagram in Appendix 3:

1.4.2 STAGE 1 DEFINING SCOPE

The purpose of the project has been agreed to produce a robust and useable Landscape and Seascape Character Assessment of the Dorset Coast and offshore areas that will inform and assist in the planning and decision making process. As the classification and description of landscape/seascape types is a factual and objective process it can be used in a range of planning and management situations. These can include informing development plan policies at both strategic and local

1 *Countryside Agency and Scottish Natural Heritage, 'Landscape Character Assessment Guidance for England and Scotland', 2002*

levels, and in the consideration of development potential as well as to inform the siting, spacing, scale and design of development and as an input to Environmental Assessment both at the level of plans and policies and at the level of individual development proposals. Character assessment can also provide a basis for the preparation of landscape management strategies, plans and initiatives, to guide change and contribute to wider environmental initiatives.

Scale of Assessment

The study has been undertaken at the County scale of assessment, as defined in best practice guidance, and is based on landscape character types. By adopting the County scale of assessment, the study has ensured maximum compatibility with the existing County wide landscape character assessment covering terrestrial areas, delivering Dorset Coast Forum with a comprehensive assessment that embraces terrestrial, coastal and marine landscapes/seascapes in a consistent manner.

The identification of County landscape/seascape types can be used to inform the identification of areas at both a higher or lower level in the assessment hierarchy. For example several types can be included in a single Regional character area or a single type can be further subdivided into component character areas at the District scale. This will result in a nested series or hierarchy of landscape/seascape character types and areas so that assessment at each level adds more detail to the one above.

Methodology and Scope

The assessment methodology is consistent with best practice as defined within the (former) Countryside Agency and Scottish Natural Heritage guidance 'Landscape Character Assessment Guidance for England and Scotland' 2002.

Methodology development has involved reference to other assessment approaches, such as described in Maritime Ireland/Wales INTERREG Report no.5 'Guide to Best Practice in Seascape Assessment' 2001, and the recently published 'Welsh Seascapes and their Sensitivity to Offshore Developments: Method Report'.

The term 'Landscape' has been used to describe Terrestrial types which are referred to as Landscape Character Types (LCT), which generally extend to clifftops or high water mark. The term 'Seascape' has been used to describe Coastal and Marine types which are referred to as Seascape Character Types (SCT). Coastal SCT refine the approach to describing the sea/land interface and include the cliff face, beach and intertidal areas. The Seascape types extend seawards from the low water mark to include coastal, inshore and offshore waters. In recognition that seascape character assessment is significantly influenced by visual characteristics, notably the views from land to sea, sea to land and along the coastline, special consideration has been given to visual characteristics within the assessment process and to describe the character types.

1.4.3 STAGE 2 DESK STUDY

The desk study has involved the review of relevant background data and spatial information, including a number of GIS datasets, to inform the assessment and includes core documents relating to landscape character, designations, planning policy, landscape, seascape, coastal management and coastal processes, as well as cultural influences, in order to understand how these have influenced landscape/seascape character and will shape it in the future.

A full list Bibliography is included in Appendix 2 and a list of the GIS datasets used is included in Appendix 6.

In addition to preparing the narrative and supporting maps for the Study Area, themed overlay analysis of the data has been undertaken in order to prepare composite maps of landscape and seascape character types. The onshore landscape character types have been inherited from the

existing County Landscape Character Assessment[2]. New coastal/intertidal types have been identified, seaward of the terrestrial types, together with the marine seascape character types. Their extents have been plotted at suitable scales to complement the onshore landscape character types, in preparation for field verification or adjustment in Stage 3. In the same way that terrestrial landscape character types are described according to their natural and cultural characteristics, coastal and marine seascape types can be described through analysis of the same characteristics for the seafloor and intertidal shoreline, the water column above and the activities occurring within these areas. In addition the aesthetic and perceptual qualities and potential forces for changes are described.

Urban areas, identified in the character assessment have also been inherited in this assessment but descriptions and analysis of urban areas is beyond the scope of the assessment. However, consideration has been given to their physical and visual relationship to neighbouring landscape and seascape character types, such as beaches and coastal waters.

1.4.4 STAGE 3 FIELD SURVEY AND VERIFICATION

This phase of the project entailed the collection of field data in a rigorous way to allow the verification and refinement of boundaries, and to inform the written descriptions and key characteristics of the draft landscape and seascape character types, including observations on Aesthetic and Perceptual Qualities. Appropriate refinements to boundaries were made, as necessary, taking into account that boundaries, as with terrestrial assessments, represent zones of transition between adjacent types rather than definitive and clear cut boundaries.

Fieldwork included visiting each draft landscape and seascape character type to assess and describe aesthetic and perceptual characteristics and record details of general landscape condition and evidence of changes that could shape the future landscape/ seascape. A minimum of three locations were visited within each of the draft types. Survey forms were prepared for at least one location within the draft type. In addition to completing survey forms and recording observations a comprehensive photographic record was prepared. Photographic Viewpoints and Survey Points have been recorded for each of the sites visited, and the location marked using a GPS device. Panoramic photographs have been taken using a digital SLR camera with a fixed focal length of 50mm.

Limitations to the fieldwork included the difficulty of accessing parts of the coast due to lack of roads, land ownership and restrictions on access due to military activity. The marine seascape types were visited by boat to a series of pre-selected points considered to be representative of each draft type. The fieldwork, however, records a point in time and could not record temporal or seasonal differences in activity, for example.

All field work survey forms and notes have been recorded in an Access database and linked to the photographic records and mapped GPS locations. These are included within a separate Fieldwork Report which also includes maps which show survey points. The Fieldwork Toolkit is included in Appendix 5.

Following completion of the fieldwork all landscape and seascape types have been classified and described focussing especially on issues relating to perceptual qualities, visual character and condition and perceived forces for change.

1.4.5 STAGE 4 STAKEHOLDER CONSULTATION

In recognition of the important role of consultation and to establish a benchmark for future engagement with professionals and interested parties in the County, a presentation and consultation workshop was undertaken with members of the Dorset Coast Forum (DCF) at one of their bi-annual meetings, which attract in excess of 100 members.

Briefing papers were issued in advance to delegates and a short presentation was given on the day to introduce the study, the methodology employed and the draft character types.

2 *Dorset County Council, The Dorset Landscape Character Assessment*

The purpose of the workshop was to test and inform the work undertaken and to incorporate stakeholder/consultee perceptions. This was done by dividing delegates into Groups which were pre-selected by the DCF organisers, to bring together a broad spectrum of views within each group. Each group was provided with the draft Seascape Character Type maps and the facilitator posed four questions:

- Question 1 - *for landscape/seascapes that you know, describe the activities that take place in this area, any key features and any other characteristics, such as nature conservation value, and whether it is quiet/remote/busy/sheltered etc, that help to define this area;*

- Question 2 – *for landscapes/seascapes that you know, describe any associations such as with artists, authors, poets, films etc. Also any other qualities such as scale, relationship with the coastline, views or scenic quality that make this area special;*

- Question 3 – *for landscapes/ seascapes that you know identify any changes that are taking place or might take place that could influence the character of the area and suggest any actions that might help to make these changes acceptable (such as fishing, recreation, windfarms, oil and gas, shipping etc›);*

- Question 4 – *based on your knowledge, review the draft coastal and seascape types and suggest any amendments to boundaries of these areas. Please comment on whether the name accurately reflects the character.*

Delegates were also invited to provide written feedback if they had further information or comments.

The local knowledge of consultees was found to be especially valuable in understanding the temporal and seasonal qualities of the landscape and seascape that could not be picked up during fieldwork, which recorded a point in time.

A summary of the consultation responses from the DCF consultation event are included in Appendix 7.

1.4.6 STAGE 5 REPORT PREPARATION

The report brings together the findings of the Baseline Studies, GIS mapping, Fieldwork and Consultation to enable the Landscape and Seascape Character Types of the Dorset coast to be described and mapped in terms of their Key Characteristics, Physical and Cultural Influences, Aesthetic and Perceptual characteristics and Forces for Change acting upon them at present and projected in the future. The report also describes proposed strategies to manage change, based upon the definitions recommended in the European Landscape Convention to 'protect, manage or plan.'

1.5. REPORT STRUCTURE

The report is divided into the 7 main sections.

Section 1 provides the introduction to the project and sets out the Approach and Methodology for the study and outlines the report structure.

Section 2 reviews existing landscape character assessments that have informed this study from National to District scale assessments but particularly focuses on the Dorset County Assessment which forms the basis for the terrestrial characterisation of types. It also looks at those studies that have helped inform the characterisation of the coastal/intertidal and seascape types including Coastal and Marine Natural Areas and Historic Seascape Characterisation.

Section 3 outlines the numerous designations that cover most of the Dorset Coast from international designations such as World Heritage status, to European, National and County level designations which afford a high level of protection to much of the coast and marine areas and also influence the development of the coastal and marine environments. These include Landscape Designations such as Areas of Outstanding Natural Beauty (AONB) and Heritage Coast, Geodiversity and Biodiversity designations, including the international World Heritage Site status of the Jurassic Coast, RAMSAR sites, European designations such as SACs and SPAs, nationally

designated SSSIs, and National Nature Reserves. In addition the implications of the Marine and Coastal Access Act, 2009, is reviewed together with County Policies and Planning Guidance.

Section 4 entitled the Evolution of the Landscape/ Seascape, provides an overview of the generic physical and cultural influences that have shaped the coastal landscapes and marine areas of Dorset. These have been mapped in GIS and the overlaying of these maps has assisted in understanding how the marine and coastal areas can be subdivided according to a range of key characteristics that help to define the character types.

Section 5 describes the variety of competing pressures that have and are shaping the character of the landscape and seascape, including natural processes such as erosion and human impacts and activities such as climate change, tourism and leisure, industry and waste, minerals extraction and energy generation, infrastructure and transport, development and urban expansion, fisheries and agriculture, military activities and marine and nature conservation.

Section 6 discusses perception of Landscape and Seascape which is shaped through actual experience as well as through cultural associations such as writers, painters and the media. The visual qualities of the coastal landscape are defined through the Zone of Theoretical Visibility and further described for each Character Type in Section 7.

Section 7 describes in detail the Landscape and Seascape Character Types at the County level. The Landscape and Seascape Character types are generic in nature in that they cover different localities that share broadly similar combinations of key characteristics under the themes of Physical, Cultural and Perceptual attributes. In addition the report presents information on Forces for Change and associated management actions and target strategies for shaping the future of landscape/ seascape character types using the definitions provided in the European Landscape Convention of 'Protect, Manage, Plan'.

Additional information is presented in the Appendices, including a Glossary of terms used in the assessment process, a Bibliography of reference materials, Fieldwork toolkit, datasets used, and a report on the consultation undertaken and the valuable contributions made to this report. A flow chart of the assessment process is also included. All Figures covering the baseline work and final Landscape and Seascape character types are included in Appendix 8.

SECTION 2

REVIEW OF EXISTING LANDSCAPE AND SEASCAPE ASSESSMENTS, CHARACTERISATIONS AND STUDIES IN DORSET

Shingle Beach

2.1. INTRODUCTION

A wide range of landscape character assessments, together with Biodiversity characterisation (Natural Areas), and a number of historic studies, have been undertaken within and covering the Study Area. These demonstrate the diversity of landscape character along the Dorset coast that exists from the National to the District scale of assessment with these studies mainly concentrating on land areas up to the coast.

At the national scale, the Character of England map and its supporting narrative, provides a broad overview of the variations in landscape character that exist along the Dorset Coast. At the more local level several district and protected landscape assessments have been undertaken within the County that are of relevance to the Dorset Coast.

In addition, a number of assessments have been produced which look at the historic environment of the Dorset Coast. English Heritage commissioned a pilot project for Historic Seascape Characterisation[3] reporting on the historic character of the intertidal and marine zones of the Solent, the Isle of Wight, and adjacent UK controlled waters. Amongst other issues, the document takes into account the need to realise the potential of Dorset's coastal archaeology and history and the importance of managing the archaeological resource effectively. In considering the historic environment, the report further contributes to the appreciation of the variations that exist along the coast.

All available reports and supporting maps have been used in the identification, mapping and description of the Dorset Coast Landscape and Seascape character types, with the intention that the assessment will inform and assist in the planning decision making process.

3 *HWTMA/Bournemouth University/Southampton University, England's Historic Seascapes: Solent and Isle of Wight Pilot Project, 2007.*

2.2. NATIONAL LANDSCAPE CHARACTER

In the Landscape Character Assessment hierarchy, the Character of England map provides a broad characterisation of the English landscape. The assessment identifies 159 National Character Areas (NCAs), five of which fall within the Study Area:

- Character Area 135, Dorset Heaths;
- Character Area 136, South Purbeck;
- Character Areas 137 and 138, Isle of Portland/ Weymouth Lowlands, and
- Character Area 139, Marshwood and Powerstock Vales.

Located on the western edge of the Dorset Coast is a limited area of Character Area 147, Blackdowns, whilst to the eastern edge is a limited area of Character Area 131, New Forest. The distribution of NCAs along the coast is illustrated in Figure 2. The character of these NCAs is described in Countryside Character Volume 8: South West[4]. They do not cover marine areas or significant areas of the intertidal zone.

The National Landscape Typology subdivides the framework of National Character Areas into discrete types of landscape, identified and plotted, based on similarities in their physical, biological and cultural character. The National Landscape Typology arose from GIS manipulation of various baseline datasets and was not subjected to testing in the field.

A total of12 National Landscape Character Types (NLCTs) can be found along the Dorset Coast (excluding urban areas). The character of these NLCTs is described through combining definitive attributes of the landscape, summarised by a unique 3 letter code, with each of the three codes representative of Physiography, Landcover and Cultural Pattern.

A number of NLCTs recur in several locations along the coast such as landscape type ULN (U = Low hills (physiography), L = Chalk and Limestone (landcover) and N = Nucleated unwooded (cultural pattern), which are generally located along the coast in the centre of the County. By contrast, a number of NLCTs occur only once along the Dorset coastline, for example LDO (L = Lowlands, D = Heath and Moorland and O = Unsettled/open land.

The distribution of National Landscape Character Types is illustrated on Figure 2. For further details, including the National Landscape Typology Definitive Attributes, refer to the tables in Appendix 4.

2.3. COUNTY AND DISTRICT SCALE LANDSCAPE CHARACTER ASSESSMENTS

County and District scale landscape character assessments have been undertaken for several years by local authorities to inform a range of planning and decision making functions. They provide an assessment of landscape character at a more refined scale than nationally available assessments, and as such, present information that is more applicable to local decision making and engagement with local communities, which are often consulted in the assessment process.

The methods adopted for undertaking these assessments are varied, depending on when the assessment was carried out, at what scale, and for what purpose. Since 2002 and the publication of best practice guidance for landscape character assessment, there has been greater consistency in the approaches to these assessments, notably because of the identification of an assessment hierarchy and the requirement to consider existing and neighbouring assessments in the process of identifying new Landscape Character Types and Areas. However, some disparity in the outputs is evident across the Study Area.

Along the Dorset Coast, county, district, and borough assessments, as well as those undertaken for the Dorset Area of Outstanding Natural Beauty (AONB), provide full geographic coverage of landscape character assessments (LCAs) along the coastline terrestrial areas. Each of the character

4 *The Countryside Agency, Countryside Character Volume 8: South West, The character of England's natural and manmade landscape, 1999.*

assessments can be found on the relevant local authority websites, and boundaries of the Landscape Character types for the County Assessment are illustrated on Figure 3.
For the purposes of this assessment, as the study is carried out at a County scale to ensure maximum compatibility with the existing County wide landscape character assessment covering terrestrial areas, only the relevant landscape character types from the Dorset County Landscape Character Assessment are outlined below.

Each of the following inherited landscape character types is contiguous with the coast, and has an inter-relationship with the coast and marine areas, to varying degrees. These are described in further detail in Section 7.

- **Wooded Hills** – a varied and undulating pastoral landscape with broad rolling hills, steep ridges, some incised valleys and dramatic coastline. The coastal landscape includes headlands, eroding cliffs and under cliffs, landslips and small beaches.

- **Undulating River Valley** – meandering flat river floodplains with rolling adjacent hills. This Undulating river landscape has only a limited connection with the coast where grazing marsh and reedbeds become more apparent.

- **Clay Valley** – a varied landform from broad open valley to more sweeping valley and areas which are more secluded. The landscape is enclosed and defined by the dramatic steep chalk and limestone escarpments and ridges which create a backdrop to the landscape. Distinctive coastal landmarks and features are evident within this landscape.

- **Coastal Grassland** – an exposed and largely treeless landscape with open, dramatic views along the coast, and defined by a chalk escarpment to the north. The sloping and gently undulating rough coastal limestone includes grassland and scrub, a patchwork of regular fields and low, stunted hedgerows. Lower slopes in close proximity to the beach contain reeds and grazing marsh.

- **Ridge and Vale** – a landscape of broad evenly spaced ridges and valleys following a west-east alignment. Enclosing the ridge and vale landscape is the chalk escarpment to the north, with open views along the coast from the smooth, broad and hog-backed shaped ridges.

- **Harbour/Wetland/Lagoon** – a landscape which includes a distinctive mix of tidal mudflats, marshland, reed bed, open water and shingle bank. The landscape is open, tranquil and generally unspoilt. Important views and vistas of historic and cultural importance are evident, with the landscape type also being important for open space and recreational value. For the purposes of this assessment the Natural Harbours have been further differentiated within this type and described separately.

- **Limestone Peninsula** – a dramatic and distinctive limestone peninsula which provides a unique coastal landmark with sweeping views along the coast. The peninsula is an exposed, windswept and rocky landscape.

- **Valley Pasture** – a flat and open valley floor landscape with distinctive meandering river channels. The valleys widen out towards the coast and merge with the harbour side landscapes.

- **Chalk Ridge/Escarpment** – a steep, distinctive and bold ridge and scarp slope that creates a dramatic visual edge enclosing and providing a backdrop to other landscapes adjacent to the coastline. Due to the elevated nature of the ridge, wide panoramic views are possible.

- **Rolling Wooded Pasture** – a landscape of undulating, low and rolling hills with an irregular patchwork of pasture, woods and hedgerows. It is a small scale landscape that is intimate and enclosed, with very limited areas adjacent to the coast.

- **Limestone Plateau** – an exposed sloping plateau which plummets towards the sea along a cliff edge, creating a dramatic coastline of steep cliffs and incised deep valleys. The windswept plateau is virtually no treeless and offers expansive views across the Corfe valley to the sea and from the coast.

- **Lowland Heathland** – an undulating lowland landform with a distinctive open, exposed and uniform character. The landscape is complex and diverse, often with a fragmented mosaic of heaths, grassland, birch/pine woodland and scrub. Wide expansive views are apparent from the more elevated areas.

2.4. COASTAL AND SEASCAPE ASSESSMENTS

2.4.1. COASTAL AND MARINE NATURAL AREAS

English Nature, now Natural England, initially conceived the idea of Natural Areas on land and in the near shore zone and has identified these areas on the basis of their underlying geology, natural systems and physical processes. Natural Areas provide a strategic framework to allow objectives to be set at a broad scale, to plan action and resources to achieve these and to bring relevant partners on board.

The South West Region Natural Area[5] defines three areas of relevance to the Dorset Coast: 109 Solent and Poole Bay; 110 South Dorset Coast; and 111 Lyme Bay. In summary, the main characteristics of the Coastal Natural Areas are outlined below and their boundaries illustrated on Figure 4:

109 Solent and Poole Bay:

- tertiary stratigraphy, palaeoenvironments and palaeontology;
- evolution of the River Solent and Pleistocene environments;
- coastal geomorphological features including Poole Harbour;
- sand dunes at Studland Bay;
- vegetated shingle, with examples at the mouths of Christchurch Harbour and Poole Harbour;
- lagoons, for example, at Poole Harbour;
- large areas of saltmarsh, with examples at Christchurch Harbour and Poole Harbour;
- large areas of intertidal mudflats in estuaries and embayments.

110 South Dorset Coast

- internationally important stratigraphic sites;
- world-famous fossil locations;
- displays all stages in the formation of caves, arches and stacks;
- Portland Bill, a raised beach on the Isle of Portland;
- erosional features of Lulworth Coast;
- outstanding, large brackish lagoon at the Fleet;
- extensive hard limestone cliffs and soft chalk cliffs;
- shingle beach;
- saltmarsh at Lodmoor;
- extensive intertidal rocky shores;
- intertidal mudflats and sandflats in Weymouth Bay;
- subtidal sediments, mostly sands and gravels;
- subtidal rocky reefs.

5 *English Nature, Natural Areas in the South-west Region, 1999*

111 Lyme Bay

- coastal exposures of international importance;
- type localities for vertebrate and invertebrate fossils;
- coastal geomorphological features of international importance;
- coastal landslips of international importance;
- outstanding vegetated shingle beach at Chesil, also some bare shingle beaches;
- intertidal and subtidal rocky reefs;
- well developed reefs of Sabellaria alveolata (honeycomb worm) in coves.

As a subsequent logical step from the Natural Areas, the concept was extended into the marine environment. Together with the Joint Nature Conservation Committee (JNCC) and in consultation with other organisations, English Nature identified and described six Marine Natural Areas.

2.4.2. MARINE NATURAL AREAS

The Marine Natural Areas take account of natural processes and the interaction between them, the underlying geology and distinctive wildlife. There are two that are of relevance to the Dorset Coast, the South Western Peninsula and the Eastern Channel. The South Western Peninsula extends from Portland Bill, westwards along the Dorset Coast and beyond into adjacent counties. The Eastern Channel extends from Portland Bill in an easterly direction to Dover. Full descriptions of the Marine Natural Areas can be found on the Natural England website and in the relevant publications. The boundaries are illustrated on Figure 4.

The Natural Areas emphasise the importance of natural processes, and the interaction, in particular, between geology, and wildlife. They offer a framework to help develop an ecosystem approach to managing human uses of the marine environment.

They also suggest an appropriate scale and potential framework in which to manage and govern the seas adjacent to England and provide information on habitats and species, physical features and nature conservation importance across the wider marine environment, and the key human activities relevant to these.

The inshore boundary of the Marine Natural Areas is the mean low water mark, and the offshore boundary extends outwards to the limits of UK jurisdiction.

2.5. HISTORIC SEASCAPE CHARACTERISATIONS

2.5.1. SOLENT AND ISLE OF WIGHT SEASCAPES

In 2002 English Heritage took on statutory responsibility for advising Government on the marine historic environment and began to develop new approaches and initiatives. One such approach is the development of a Historic Seascape Characterisation (HSC) methodology. Through the Aggregates Levy Sustainability Fund, English Heritage undertook five pilot projects which informed the now-established HSC method, extending the application of Historic Landscape Characterisation (HLC) to consider the historic cultural dimension of England's intertidal and marine zones and adjacent UK Controlled Waters. One of those HSC pilot studies in 2006-7, the Solent and Isle of Wight project area, was selected as it is one of the busiest sea areas, due to shipping, recreation and leisure. Its natural resources, such as marine aggregates and shellfish also increase usage within the area and add pressure to manage such activities in a sustainable way.

The study area for the pilot study covered only a limited area of the Dorset coast from Durlston Head to the eastern boundary. It also extends 2km landward to provide an overlap in perspective with terrestrial historic landscape characterisations, and to ensure a 'seamless' approach to the historic environment. In a seaward direction, the assessment extends offshore up to the median line with France.

The project identifies eight broad Historic Seascape Character Types with further subdivisions into sub-character types, of which there are twenty one. Of particular relevance to the Dorset coast are the Swanage Bay, Poole Harbour, Poole Bay, Christchurch Harbour and The Needles seascape character types, which are summarised below. Details of historic seascape characterisation can be found on the Archaeological Data Service (ADS) website or via English Heritage's Historic Seascape Characterisation webpage.

Swanage Bay – a relatively shallow bay that is a popular tourist destination. It is utilised for a range of water sports and fishing, and Swanage Pier provides a popular site for SCUBA diving. Together with modern leisure activities, the area has a history of maritime trade and transport, including fishing and stone export.

Poole Harbour – one of the world's largest natural harbours, it has been the centre for human occupation for many centuries. A legacy of maritime trade and transport can be seen through remains of Roman shoreside structures, and Iron Age logboat find and numerous buildings and structures relating to more recent vessel traffic.

Poole Bay – encompasses both Poole and Studland Bays. The bays are within a relatively sheltered section of the coast, and play host to a range of marine traffic, including commercial craft and recreation craft.

Christchurch Harbour – situated to the east of Poole Bay and overlooking the approach to the western Solent. The area is popular for watersports and recreation, with the exposed headland at Hengistbury providing an archaeological site of national importance.

The Needles – a distinctive area of the Solent, with the pinnacles forming a hazard to navigation through the western Solent, the number of shipwrecks within the area being evidence to this. The area also has a considerable geomorphological legacy, with the chalk ridge once continuing across to the Dorset coastline, providing a feature which influenced the formation of the modern day Solent.

2.5.2. HISTORIC ENVIRONMENT STUDIES

In June 2004, Wessex Archaeology was commissioned by English Heritage to undertake a Phase 1: Rapid Coastal Zone Assessment Survey[6] of the Dorset coast, which would contribute to the Dorset Coast Strategy. The assessment survey area utilised a 1km buffer inland, and extended offshore to the six nautical miles (nm) fishing limit or the 30m contour. The findings of the assessment allow for archaeology to be fully integrated into the planning and management of the whole of Dorset's coastal zone and inshore waters, and also contributes to the overall knowledge of archaeological sites along the coast.

English Heritage has also commissioned a National Mapping Programme survey of the South Dorset Ridgeway and its environs; much of which is coastal and visible from the coast. The survey aims to define, characterise and analyse the historic environment of the area and has been ongoing for the past two years. The results will assist with the implementation of the Dorset AONB Management Plan and with the formulation of wider research objectives and strategies for the South Dorset Ridgeway.

6 *Wessex Archaeology, Historic Environment of the Dorset Coast, Rapid Coastal Zone Assessment Survey; Survey Phase I Project Report, Draft, June 2004*

SECTION 3

DESIGNATIONS & POLICY

West Bay Sandstone Cliff

3.1. INTRODUCTION

The Dorset coast is known for its outstanding environmental quality, with its internationally important heaths around Bournemouth and Poole, the New Forest National Park, part of which falls within the east of the County, the Jurassic Coast World Heritage site, which extends through East Devon and along the western and central parts of the Dorset coast as well as the Dorset AONB which is also continuous with the East Devon AONB. The surrounding countryside is also of high quality and there are several inland areas designated as AONBs (Blackdown Hills and Cranborne Chase being particularly relevant as they lie adjacent to the Dorset AONB). As a well protected coastal landscape, there are also special issues associated with its juxtaposition to harbour, intertidal, estuarine and marine areas, and activities occurring out to sea can have significant implications for the character and qualities of the area.

The range of designations covering much of the Study Area, from international through to European, National, County level and local, afford a high level of protection to the Dorset coast, outside urban areas, with well coordinated initiatives for management of these assets, which tend to bring together a wide number of interested parties. There are also a number of proposals for the greater protection of the coastal and marine environment both at European, national and local level through various initiatives and projects. These include the Finding Sanctuary project, which is now part of a national statutory process to identify Marine Conservation Zone (MCZs) for Natural England, and C-SCOPE, both of which will shape and influence the management of the marine environment off Dorset.

3.2. LANDSCAPE DESIGNATIONS

The Dorset Coast is recognised nationally with large areas designated as Areas of Outstanding Natural Beauty (AONB). Much the same area is also designated as Heritage Coast. The Landscape designations are shown on Figure 5.

3.2.1. AREAS OF OUTSTANDING NATURAL BEAUTY

AONBs are designated under the National Parks and Access to the Countryside Act, 1949. The purposes of this designation were updated and confirmed by the Countryside Commission in 1991. The primary purpose is to conserve and enhance natural beauty. The Countryside and Rights of Way Act, 2000 (CROW) confirmed the significance of AONBs and created improved arrangements for their management. In June 2000 the Government confirmed the importance and protection of AONBs as equivalent to those of National Parks.

The Dorset AONB was designated in 1959 and is the fifth largest, by land area, in the country. It covers approximately 42% of the County. It stretches from Lyme Regis in the west, along the coast to Poole Harbour in the east. It also covers half of Poole Harbour, including Brownsea and the smaller islands. The designated area ends at mean low water mark. A number of small market towns occur in the AONB including Lyme Regis, Bridport, Beaminster and Swanage.

The AONB Management Plan is updated every five years and is coordinated by the AONB Partnership, representing local authorities, statutory agencies and landowners. The Partnership also has dedicated staff. The Plan is a statutory requirement and guides and informs all other plans and activities within the AONB area. It is a material consideration in planning decisions and Natural England is consulted as a matter of course. Conservation and enhancement of landscape character and quality underpins the Management Plan for the AONB, which also recognises the coast as a significant characteristic of the designation, providing unique challenges and opportunities for its management.

There are three objectives within the plan that relate to the coast and sea;

- Conserve and enhance the coast and marine environment of the AONB through integrated management that recognises the links between lands and sea.
- Support the natural evolution of the coast, allowing natural coastal processes to operate where possible
- Maintain and enhance the open and undeveloped nature of the AONB's coastal landscapes and seascapes.

3.2.2. HERITAGE COAST

There are 43 designated Heritage Coasts in England and Wales, covering about one third of the coastline. There are two in Dorset, which cover most of the coastline to the west of Poole Harbour. "Heritage Coast" is a non-statutory designation which was initiated in 1972 with a view to protecting coastlines of special scenic and environmental value from undesirable development. Much of the designated coastline is owned by the National Trust.

The West Dorset Heritage Coast extends from Seaton in the west of the County, eastwards to Portland. The Purbeck Heritage Coast extends from Weymouth Bay around to Poole Harbour. The designation excludes towns such as Lyme Regis, Bridport, Weymouth, Portland and Swanage.

3.3. GEODIVERSITY AND BIODIVERSITY DESIGNATIONS

The Biodiversity and Geology designations are shown on Figure 6 which include International, National and Regional designations which encompass significant areas of the Dorset coast.

3.3.1. WORLD HERITAGE SITE

The Dorset and East Devon Coast, also known as the Jurassic Coast, was inscribed on the World Heritage list by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in December 2001. It covers 95 miles of coastline from East Devon to Dorset, with rocks recording 185 million years of the Earth's history. Approximately 75% of the WHS falls within the County of Dorset and includes the whole coastline between the Devon eastern border eastwards to Studland Bay, excluding only Weymouth.

The Dorset and East Devon Coast was inscribed on the World Heritage List as a Natural Site category (i) and is one of the most significant earth science sites in the world: *'outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features'* including:

- a near-continuous sequence of Triassic, Jurassic and Cretaceous rock exposures, representing almost the entire Mesozoic Era (between 250 and 65 million years ago), approximately 185 million years of Earth history;
- a range of internationally important Mesozoic fossil localities, including those at Charmouth and Lyme Regis, Kimmeridge Bay, the Isles of Portland and Purbeck, and Durlston Bay;
- a great variety of 'textbook' geomorphological features, including landslides such as Black Ven, stacks such as Old Harry Rocks, rock arches such as Durdle Door and the most studied barrier beach anywhere in the world, Chesil Beach.

The World Heritage Site (WHS) Management Plan sets out a number of objectives:

- to conserve the geology and geomorphology of the Site;
- to conserve, and enhance where appropriate, the quality of the landscape and seascape of the Site;
- to welcome local people and visitors to the Site at levels which it can sustain;
- to encourage safe use of the Site by educational groups of all ages, and to provide a high quality range of educational information and services about the Site;
- to foster the gathering and dissemination of scientific information about the Site;
- to ensure that World Heritage Site status: a) is used responsibly in all aspects of publicity in relation to the Dorset and East Devon Coast, and b) assists wider sustainable development objectives within Dorset and East Devon.

3.3.2. RAMSAR SITES

The international RAMSAR Convention of 1971 requires the government signatories to agree to identify and protect their most significant wetlands for wildlife, especially waterfowl. Under the Convention, each government must select its best wetlands according to very clear criteria, and these RAMSAR Sites are then protected from development in all but the most exceptional cases.

Four RAMSAR sites occur along the Dorset coast:

Chesil Beach & the Fleet

- Chesil Beach and the Fleet are located just west of Portland Bill. Chesil Beach is a raised shingle beach 28 kms long, up to 160 metres wide and up to 14 metres in height. It stretches north-west from Portland to West Bay. For much of its length it is separated from the mainland by an

area of saline water known as the Fleet Lagoon which is 13 km long. Its width varies from 900 metres at Littlesea down to just 65 metres in the Narrows. The deepest part is 4-5 metres deep, but all of the mid and upper Fleet is less than 2 metres deep. Hamm Beach is located on the eastern side of Chesil Beach facing into Portland Harbour. It is formed from material from the east side of Portland moving north to form the Mere barrier and then Hamm Beach. It is an area of shallow sand dunes overlaying shingle.

Dorset Heathlands

- The Dorset Heathlands cover an extensive complex of heathland sites at the western edge of the Hampshire Basin in southern England. The area is centred around the large estuary of Poole Harbour and lies in close proximity to the urban conurbations of Bournemouth and Poole. Past losses of heathland (an estimated 75% during the twentieth century) have left the remaining heaths in a highly fragmented state. Despite this decline and fragmentation, the heaths show a high degree of ecological cohesion. They contain large areas of dry heath, wet heath and acid valley mire, all habitats that are restricted to the Atlantic fringe of Europe. There are also transitions to coastal wetlands and floodplain fen habitats. The Heaths have an outstanding fauna, covering many different taxa. Many species have a specialist ecology, strongly associated with, or restricted to, heathland. The area is also important for specialist breeding birds of lowland heathland, as well as for some wintering raptors. The Dorset Heathlands are among the best of their type in the UK.

Poole Harbour

- Poole Harbour occupies almost 4000 hectares and is a shallow depression towards the south-western extremity of the Hampshire Basin, which has flooded over the last 5,000 years as a result of rising sea levels. The unusual micro-tidal regime means that a significant body of water is retained throughout the tidal cycle. The Harbour therefore exhibits many of the characteristics of a lagoon. There are extensive intertidal mud-flats and, away from the north shore that has become urbanised through the growth of the town of Poole, there are fringes of saltmarsh and reedbed. The Harbour supports significant populations of waterfowl in winter and is also an important breeding site for terns and gulls.

- Several river valleys converge on the Harbour, notably the Frome and the Piddle, and these support grazing marsh that contribute to the importance of the area for wintering water birds. Parts of the Harbour, especially along the western and southern shores, adjoin the Dorset Heathlands. Where the two areas meet, there are unusual transitions from saltmarsh and reedbed to valley mire and heath habitats. The Harbour is separated from Poole Bay by the Studland Dunes (part of the Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC) and the Ramsar site includes Littlesea, a large oligotrophic dune-slack lake of importance for wintering wildfowl.

Avon Valley

- The Avon Valley Ramsar site encompasses the lower reaches of the River Avon and its floodplain. The site extends for approximately 20 km between Bickton and Christchurch. The River Avon displays wide fluctuations in water level and parts of the valley are regularly flooded in winter. Consequently, the valley includes one of the largest expanses of unimproved floodplain grassland in Britain, including extensive areas managed as hay meadows and grazing marsh under low–intensity agricultural systems. These extensive floodplain grasslands support wintering Bewick's Swans.

3.3.3. SPECIAL PROTECTION AREAS (SPAS)

The European Community directive for the Conservation of Wild Birds (1979) defines the duties of Member States generally in relation to all species of wild birds and in particular to preserve enough wild places to safeguard migratory and vulnerable bird species. These are to form a network of protected areas called Special Protection Areas (SPAs).

There are three SPAs of international importance for birds, Poole Harbour, Dorset Heathlands and Chesil Beach and the Fleet, which are also RAMSAR sites. The following table lists the reasons for which the SPAs are designated:

Wetlands at Christchurch Harbour

SITE NAME	ARTICLE 4.1 QUALIFICATION (79/409/EEC)	ARTICLE 4.2 QUALIFICATION (79/409/EEC)
Chesil Beach and The Fleet	None	Over winter the area regularly supports: *Branta bernicla bernicla* (Brent geese) (Western Siberia/Western Europe) 1.1% of the population, 5 year peak mean 1991/92-1995/96
Dorset Heathlands	During the breeding season the area regularly supports: *Caprimulgus europaeus* (Nightjar) at least 12.8% of the GB breeding population (Two year mean, 1991-1992) *Lullula arborea* (Woodlark) at least 6.8% of the GB breeding population (Three count mean, 1991-2 & 1994) *Sylvia undata* (Dartford Warbler) at least 26.1% of the GB breeding population (Three count mean, 1991-2 & 1994) Over winter the area regularly supports: *Circus cyaneus* (Hen Harrier) 2.7% of the GB population (Count, as at 1991/2) *Falco columbarius* (Merlin) 1.2% of the GB population (Count, as at 1991/2)	None.
Poole Harbour	During the breeding season the area regularly supports: *Larus melanocephalus* (Mediterranean Gull) 38.5% of the GB breeding population 5 year mean 1993-1997 *Sterna hirundo* (Common Tern) (Northern/Eastern Europe - breeding) 1.3% of the GB breeding population 5 year mean 1993-1997. Over winter the area regularly supports: *Recurvirostra avosetta* (Avocet) (Western Europe/ Western Mediterranean breeding) 36.1% of the GB population 5 year peak mean 1992/3-1996/7	Over winter the area regularly supports: *Limosa limosa islandica* (Black- tailed Godwit) (Iceland - breeding) 2.4% of the population 5 year peak mean 1992/3-1996/7 *Tadorna tadorna* (Common Shelduck) (North-western Europe) 1.2% of the population 4 year peak mean 1993/4-1996/7 Over winter the area regularly supports: 25091 waterfowl (5 year peak mean 01/02/1999) Including: *Tadorna tadorna* , *Recurvirostra avosetta* , *Limosa limosa islandica*

3.3.4. SPECIAL AREAS OF CONSERVATION (SACS) AND POSSIBLE SACS (PSACS)

The European Directive on the Conservation of Natural Habitats (1992) requires Member States to identify and designate areas of land as Special Areas for Conservation (SACs) for their importance as habitats for species other than birds.

There are nine SACs within the Dorset AONB including the coastal SACs of Chesil and the Fleet, Dorset Heaths, Dorset Heaths (Purbeck and Wareham) and Studland Dunes, Isle of Portland to Studland Cliffs, St Alban's Head to Durlston Head and Sidmouth to West Bay.

The features (Annex 1 habitats and Annex 2 species) for which these sites are designated are listed in the following table – secondary features are those which are known to occur on the sites but not with sufficient extent or numbers to be a primary reason to designate.

SITE NAME	ANNEXES 1 & 2 FEATURES (PRIMARY)	ANNEXES 1 & 2 FEATURES (SECONDARY)
Chesil and the Fleet	Coastal lagoons Annual vegetation of drift lines Perennial vegetation of stony banks Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
Dorset Heaths	Northern Atlantic wet heaths with *Erica tetralix* (Cross leaved heath) European dry heaths Depressions on peat substrates of the *Rhynchosporion*	*Molinia* (Purple Moor Grass) meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) Calcareous fens with *Cladium mariscus* (Great-fen Sedge) and species of *Caricion davallianae* Alkaline fens Old acidophilous oak woods with *Quercus robur* (Oak) on sandy plains Great crested newt
Dorset Heaths (Purbeck and Wareham) and Studland Dunes	Embryonic shifting dunes Shifting dunes along the shoreline with *Ammophila arenaria* (Marram Grass) ('white dunes') Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) Humid dune slacks Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) Northern Atlantic wet heaths with *Erica tetralix* Temperate Atlantic wet heaths with *Erica ciliaris* (Dorset Heath) and *Erica tetralix* (Cross leaved Heath) European dry heaths Depressions on peat substrates of the *Rhynchosporion* Bog woodland Southern damselfly	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) Calcareous fens with *Cladium mariscus* and species of *Caricion davallianae* Alkaline fens Old acidophilous oak woods with *Quercus robur* on sandy plains Great crested newt
Isle of Portland to Studland Cliffs	Vegetated sea cliffs of the Atlantic and Baltic coasts Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) Early gentian (*Gentianella anglica*)	Annual vegetation of drift lines
St Alban's Head to Durlston Head	Vegetated sea cliffs of the Atlantic and Baltic coasts Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) Early gentian (*Gentianella anglica*)	Greater horseshoe bat (*Rhinolophus ferrumequinum*)
Sidmouth to West Bay	Vegetated sea cliffs of the Atlantic and Baltic coasts *Tilio-Acerion* forests of slopes, screes and ravines	Annual vegetation of drift lines

Together SACs and SPAs form a network of 'Natura 2000' sites, European sites of the highest value for rare and endangered or vulnerable habitats and species.

The former Poole Bay to Lyme Bay Reefs pSAC site has recently been split in two and the section known as Lyme Bay and Torbay has been submitted to the European Commission. The Lyme Bay section falls within Dorset Waters.

Lyme Bay Reefs

The seabed in the Lyme Bay Reefs area is found to comprise a wide variety of reef features including:

- outcropping bedrock (including igneous, chalk, mudstone and limestone examples); and
- pebbles, cobbles and boulders.

The reef features extend over a large area. Unlike other sites within the Poole Bay to Lyme Bay site, they do not extend directly out from the coast but occur as outcropping bedrock slightly offshore. The softer sediment habitats are commonly found between the bedrock or cobble / boulder areas. The second part, now known as Studland to Portland, is still under consideration and will be consulted upon in due course.

3.3.5. SITES OF SPECIAL SCIENTIFIC INTEREST (SSSI)

Within the Study Area there are 62 Sites of Special Scientific Interest (SSSIs), representing approximately half of all the SSSIs occurring within Dorset. These sites have been notified in order to maintain selected communities of plants and animals within a broad range of habitats including chalk and limestone grassland, which is found along the coast, lowland heathland in the eastern part of the County, estuaries, maritime coast and cliffs, dunes, ancient meadows and woodland. Outstanding geological features and landforms are also included, such as along the Jurassic Coast.

3.3.6. NATIONAL NATURE RESERVE (NNR)

There are eight National Nature Reserves (NNRs) within the Study Area which encompass some of the prime chalk grassland and heathland habitats. Natural England is responsible for designating areas as NNR to secure protection and appropriate management of the most important areas of wildlife habitat, to provide a resource for scientific research and to provide for recreation provided this does not compromise the wildlife habitat.

3.3.7. GEOLOGICAL CONSERVATION SITES (GCR) AND REGIONALLY IMPORTANT GEOLOGICAL SITE (RIGS)

GCRs are non statutory, nationally important Geological Conservation Sites, of which there are 66 alone in the World Heritage Site. RIGS are non statutory Regionally Important Geological Sites of which there are 13 concentrated around the Isle of Purbeck. Dorset's Important Geological Sites Group (DIGS) was founded in 1993, following the Government's requirement that Regionally Important Geological Sites (RIGS) not already adopted as SSSIs, be registered by District Councils to ensure their protection by the planning process. Since the District Councils had little specialist expertise available, DIGS was formed by enthusiasts in the county to help with the process. DIGS is affiliated to UKRIGS and Dorset Wildlife Trust.

3.3.8. SENSITIVE MARINE AREAS

Sensitive Marine Areas (SMAs) are non-statutory marine areas notable for their marine animal and plant communities or which provide ecological support to adjacent statutory sites. A further aim is to raise awareness and disseminate information to be taken into account in estuarine and coastal management planning. These areas rely on the co-operation of users and local communities for sustainable management[7].

There are 3 SMAs in Dorset:

- Poole Bay and Isle of Purbeck;
- Portland and the Fleet;
- Lyme Bay.

These designations overlap with SSSIs, SACs or possible SACs and cover the features these sites are intended to protect.

3.3.9. VOLUNTARY MARINE RESERVES

Purbeck Marine Wildlife Reserve is a voluntary partnership between the Smedmore Estate, the Army and a range of stakeholders including local authorities, local fisherman, anglers, geologists, recreational users and special interest groups. The Reserve is the longest established voluntary marine reserve in the UK, having in been in place for over 30 years. Its classic rocky shore zonation gives rise to a wide variety of seaweeds & rockpool life such as sea anemones, crabs, fish & invertebrates. Species regularly found include ballan wrasse, mullet, lobster & tompot blennies.

3.4. HERITAGE DESIGNATIONS

Dorset is rich in historic areas, sites and structures of national, County and local importance which contribute to the distinctive character of the County. These include settlements and individual buildings as well as significant archaeological remains, monuments and historic landscapes. In terrestrial areas there are many designated Scheduled Ancient Monuments (SAMs) including over 800 within the Dorset AONB, with the whole County containing nearly 7% of the UK's SAMs. These include earthworks, barrows, hillforts and Roman roads. In addition there are many registered Parks and Gardens (16 occur within the Dorset AONB), Conservation Areas and Listed Buildings, with a significant number having Grade 1 listing. It is expected that the number of these will increase as further surveys are completed. The Dorset AONB also has one of the highest concentrations of listed thatched buildings in the country.

All landscapes in the Study Area reflect the imprint of man's active and passive management, but there are also areas where traditional farming methods have helped to create distinctive landscapes which conserve wildlife habitats or heritage features.

Dorset waters contain a prolific number of wrecks, including ships, aircraft, submarines and other vehicles. The distribution of these is shown on Figure 7. These wrecks are a popular focus for divers, and some inshore wrecks have been adopted by the Nautical Archaeological Society under their 'adopt a wreck' scheme. Data from the Rapid Coastal Zone Assessment shows that there are over 1,700 recorded wrecks between Lyme Regis and the mouth of Poole Harbour. Of these, three are designated under the Protection of Wrecks Act,1973 for their archaeological value; the West Bay, Studland Bay, and Swash Channel wrecks. Six wrecks are designated 'protected places' (having been lost after 14 January 1918) under the Protection of Military Remains Act, 1986. These are HMS Blackwood, HMS Boadicea, HMS Delight, HMS Fisgard II, HMS L24 and HMS M2 (the last two are listed as 'accidental loss in peacetime'). Only 50 vessels hold this designation worldwide.

7 *JNCC 2010 http://www.jncc.gov.uk/page-1527*

English Heritage takes the lead in the designation and conservation of wreck sites and is the statutory consultee with respect to historic and archaeological features.

3.5. POLICY

3.5.1. MARINE AND COASTAL ACCESS ACT 2009

The Marine and Coastal Access Bill received Royal Assent on 12 November 2009. The Act presents clear aims, vision and strategic goals for UK waters and creates, amongst six key aspects, a strategic marine planning system. The first stage is the creation of a marine policy statement which clarifies marine objectives and priorities for the future, and directs decision makers and users towards more efficient, sustainable use and protection of marine resources. Marine plans will implement the policy statement in eleven marine plan areas in England, taking into account spatial uses and needs.

The Act also allows for the creation of a new type of Marine Protected Area, known as a Marine Conservation Zone (MCZ). Marine Conservation Zones will protect nationally important marine wildlife, habitats, geology and geomorphology. These new protected areas are expected to be designated at the end of 2012. Also pertinent is provision for the creation of a continuous signed and managed route around the coast, plus areas of spreading room, where it is appropriate to do so.

The new Marine Management Organisation (MMO) will deliver many of the objectives set out in the Act.

3.5.2. REGIONAL POLICY

Until recently, the UK planning policy framework had a regional tier. In the South West the Regional Spatial Strategy (RSS) for the twenty year period to 2026 was close to adoption. It had undergone Examination and the Secretary of State's Proposed Changes had been issued. However, on the 6th July 2010, the Coalition Government issued a statement revoking Regional Strategies with immediate effect. Their formal abolishment will be confirmed in the Localism Bill due November 2010. The Bill will set out 'new ways for local authorities to address strategic planning and infrastructure issues based on cooperation'. The policies contained in the RSS are no longer part of the development plan but the evidence base used to support the policies remains pertinent and should help inform successor arrangements. In the interim period the statutory planning policy framework now comprises any adopted Development Plan Documents and any Saved Policies from the old planning system (Structure Plans and Local Plans).

3.5.3. COUNTY POLICY

Policy for the county of Dorset is included in the Bournemouth, Dorset and Poole Structure Plan (adopted July 2000) (formerly Dorset County Structure Plan). Included within the Plan are policies specifically relating to the coastal regions of the county, recognising that it is one of its principal assets with a wide variety of ports, harbours and holiday resorts, as well natural and historic landscapes and important habitats. Along the two stretches of Heritage Coast, the Plan recognises that the emphasis should be on management for conservation in terms of quality and character, and where recreational activities require a coastal location, the aim should be to balance and reconcile these interests and contain the impact of activities through appropriate management measures. More specifically, the policies make the following provisions:

- Within areas defined as heritage coast and the undeveloped coast of the Isle of Portland priority will be given to conserving natural beauty, biodiversity and geology, whilst facilitating and enhancing, where consistent with these aims, public access, enjoyment and appreciation of the coastal zone;

- Development should not be allowed in areas where coastal erosion, flooding, sea level rise and increased storminess are likely to affect it during the lifetime of the development;

- Development which is essential for coastal protection and sea defence should take account of the environmental significance of the location in which it is proposed; and its effect on natural processes.

The Dorset Community Strategy, which is currently under review, sets out policy which aims to promote and improve the economic, social and environmental well-being of Dorset people. It has a number of visions which are highly relevant to the coast:

- Recognition and response through the partnership to the challenges faced by Dorset due to global climate change

- Protection, conservation and enhancement of Dorset's outstanding coast, countryside and marine and historic environment.

- Restoration of Dorset's biodiversity to meet the government's targets for condition of SSSIs, farmland birds, and priority species and habitats.

- Economic development within environmental limits that supports Dorset's high quality environmental and marine economic 'offer'.

- Efficient use of natural resources and a prosperous local food and farming industry working within environmental limits.

- A high quality built environment designed to support sustainable lifestyles with good provision of green space and active use and stewardship of heritage assets.

- Quality access to the environment of Dorset for everyone.

- The ongoing contribution of volunteers to the conservation and appreciation of Dorset's natural and built environment.

Policies derived from these visions, which specifically apply include:

- Plan, protect and positively manage Dorset's natural and built environment in a way which retains a diversity of landscapes, supports biodiversity and retains local distinctiveness.

- Use the international quality of the environment, including the AONB and World Heritage Site, as a driver for economic development and quality of life, within environmental limits.

- Increase support for environment based sectors of the economy.

- Develop sustainable access to Dorset's coast and countryside, with increased access for those from unemployed and low income groups and other hard to reach communities.

SECTION 4

EVOLUTION OF THE LANDSCAPE/SEASCAPE

Cornish Fishing Boat

4.1. INTRODUCTION

The diversity of the coastal landscape of Dorset reflects the interplay of a wide range of physical and cultural influences.

The complex geology underlying the Dorset coast, including the chalk ridges and escarpments, limestone ridges and plateau, greensand ridges and clay vales has been shaped and sculpted by physical processes. These processes, including coastal erosion, sea level change and elevation of the land as well as hydrological processes, have given rise to often dramatic landforms and contrasts in scenery, with numerous landmarks which contribute to a strong sense of character and place. These geological patterns and landform have had a significant influence on the land use and economy, patterns of settlement, industrial and cultural heritage and biodiversity.

There are no safe natural harbours in Lyme Bay as a result of the geology and landform and this has very much dictated the development of the larger coastal settlements in the east of the County so that Poole and Christchurch Harbours are now surrounded by the largest conurbations, with smaller ports in the shelter of Portland at Weymouth. Portland Harbour was enclosed by sea walls in Victorian times whilst smaller man made harbours are found at Lyme Regis and Bridport which date back to much earlier times. This has left large areas of Dorset as remote, rural and tranquil areas. The contrast and diversity of landscapes is also reflected in the habitat diversity, which has led to designation of significant habitats associated with the coastal areas (supporting key sites for overwintering birds), heathland and calcareous grasslands, ancient woodlands and important cliff and maritime habitats.

Humans have shaped the landscape and seascape since the earliest records of their existence in Dorset. Mesolithic hunter-gatherer communities, and later farming activities as well as settlement have had major impacts, including on the geomorphology by bringing down quantities of hill-slope deposits to fill valley floors. Some of the major communication routes and settlements inland today, such as Dorchester, date back to Roman times. The broad patterns of farmed land, grazing and woodland are very much rooted in the medieval period of land ownership and the pre-parliamentary enclosures of more recent centuries. The post-war cropping of considerable areas of former downland and sheep walks has changed 'the landscape' considerably and had huge archaeological impacts.

4.2. GENERIC PHYSICAL INFLUENCES

The geological structure of the Dorset Coast, and the juxtaposition and succession of rocks, is fundamental to the form and structure of the coast and adjacent waters. Whilst the underlying bedrock geology is responsible for the principal pattern and elevation of landform/ bathymetry, the different responses of the various rock strata to the effects of weathering processes and erosion have altered, and continue to alter, the form of the coast. The processes that shape the landform are continuous, and impacts can occur at any time, although they may take several generations, if not longer, to affect the coastline and seascape.

The deposition of seafloor sediment such as sands, gravels and till has also been important in moulding and modifying the coastal landscape and seafloor topography. As a consequence, in places, the underlying bedrock is entirely obscured by extensive overlying sediments.

Areas recognised for their geological importance along the Dorset coast are the World Heritage Site, Sites of Special Scientific Interest (SSSI), Geological Conservation Review Sites (GCR) and Regionally Important Geological and Geomorphological Sites (RIGS).

4.2.1. GEOLOGY AND LANDFORM/ BATHYMETRY

Much of the Dorset coast, together with the East Devon coast, offers a unique stretch of outstanding geology, which represents 185 million years of earth history. The coast displays not just geology from the Jurassic period, but also older Triassic and younger Cretaceous rocks, spanning the Mesozoic Era. The Triassic succession of mudstones and sandstones that are exposed to the west of Lyme Regis represent 50 million years of deposition. The overlying sequence of Jurassic rocks exposed between Lyme Regis and Swanage is amongst the best sections of marine Jurassic and Cretaceous-age rocks to be found anywhere in the world.

The coast from Exmouth to Studland Bay (excluding the town frontages) has been designated as England's first natural World Heritage Site, known as the Jurassic Coast. The area is also world famous for fossils, with new discoveries constantly being uncovered. The sequence of cliffs and bays along the 87 miles of Dorset's coast also reveal the complexities of the geological structures, with a considerable range of geomorphological features and process evident along the coast line, often little impacted by human activity. Numerous examples of landslides, beach formation and evolution in relation to sea level change are apparent, again making the Dorset coast an extremely important resource.

Coastal rocks such as the limestones of Purbeck and Portland have been an important source of building stone for centuries, with Portland stone exported worldwide, and there are extensive quarries throughout this part of the Dorset coast. There are also significant deposits of oil and gas under Poole Harbour and Purbeck. This oilfield extends into Poole Bay and is the largest onshore oil field in Europe, with estimated recoverable reserves of 300 million barrels.

Triassic Period (250 – 200 million years ago)

During the Triassic period, what we now know as Britain formed part of a super-continent called Pangaea, which eventually divided to form the continents of the modern world. Dorset lay to the centre of Pangaea where hot, arid, desert conditions prevailed. Rivers flowed to the north and east, depositing pebbles and sand across what is now southern England, and spilled into the desert, creating vast lakes that were subject to evaporation.

Jurassic Period (200 – 140 million years ago)

During the Jurassic period Pangaea began to break apart, the Atlantic Ocean opened to the west and Britain and the Americas drifted away from mainland Europe. The Earth was a relatively warm place, sea levels were high and the polar ice-caps were limited in size. During this time, conditions fluctuated from relatively deep seas to coastal

swamps, and sea levels rose and fell in a series of cycles, depositing deep water clays followed by sandstones and finally shallow limestones. During the Middle Jurassic, seas were shallower, creating an environment of islands surrounded by shallow shoals. The seas subsequently deepened and finally shallowed again towards the end of the Jurassic period, creating excellent conditions for forests to flourish in tropical swamp environments. The Jurassic rocks show a clear record of the varying marine conditions during this time period.

Cretaceous Period (140 – 65 million years ago)

During the Cretaceous period, what is now America continued to drift away from Europe, and the Atlantic started to become a recognisable ocean. In the early Cretaceous period, the Dorset coast was similar to what is now the Gulf of Arabia, with lagoons covered by salt flats and more hospitable conditions that allowed lush swamps to develop.

Halfway through the period, earth movements occurred under south west England causing the rocks to tilt to the east. As the Atlantic and Mediterranean continued to expand, a vast sea began to develop in the area. The conditions lead to clear, warm waters and billions of microscopic algae bloomed. Their skeletons sank to the sea floor to form pure white chalk.

As a result of the rocks tilting to the east during the mid Cretaceous period, the Jurassic and Lower Cretaceous rocks were eroded to the west, with the Upper Cretaceous rocks laid directly on the eroded surface of the Triassic. Overall, there was little erosion occurring to the east. The overlaying rocks with a time gap in place is known as the 'Great Unconformity', and along the Dorset coast, some of the oldest and youngest rocks are found on the eastern edge of the coast.

4.2.2. COASTAL PROCESSES AND FEATURES

As well as having one of the most complex geological structures of the British coast, the Dorset coast has also been subject to the powerful forces of coastal erosion and deposition. These have left behind a legacy of unique features such as Lulworth Cove, Durdle Door, Chesil Beach, the under cliffs and land slips around Charmouth and the beaches of Poole and Bournemouth. Through the process of erosion, there is constant exposure of new cliff faces, in particular along the soft clay cliff faces of West Dorset where erosion rapidly changes the cliff face, frequently refreshing the area, making them robust and less sensitive. In such areas, regular fossil collecting is essential to ensure that the interest is not lost to erosion. The management of this collecting is addressed by the West Dorset Fossil Collecting Code of Conduct. In contrast, the hard cliff sections such as the Portland Limestone cliffs in Purbeck erode more slowly, so although they are extremely hard, they are potentially sensitive to, for example, inappropriate fossil collecting. Many large Titanites ammonites have been collected from these sections, but as these may not be replenished for hundreds of years, it is important that the collected specimens be made available to registered museums.

Within the Dorset coastal waters there are a mixture of seabed sediment forms that are indicative of the hydrodynamic conditions affecting them. These are illustrated on Figure 8. Inshore waters around the headlands are exposed to greater current flows and typically have sediments scoured off to expose the underlying bedrock. This most noticeably occurs around Portland Bill and St Albans Head. There is little sediment cover between Portland and Swanage, revealing another dimension of the rock structure with faults, folding and erosion all evident. In the Bays within the study area (such as Lyme Bay and Poole Bay) tidal currents and exposure to wave influence are greatly reduced and so sediment regimes are indicative of depositional environments and therefore, softer sediments (muds and muddy sands prevail).

In the offshore waters of the Study Area water depths are considerable (ranging from 50 metres to in excess of 100 metres) and tidal regimes moderate at most, resulting in sandy and gravel sediments dominating the sedimentary composition of the seabed.

Figure 9 illustrates the topography of the coast and the bathymetry of marine areas within the Study Area.

Bays and Headlands

The development of bays and headlands is particularly striking around Lulworth Cove. Along this section of the coast, the rocks have been tilted to a near vertical position, with the oldest rocks, the Portland Limestone, forming a barrier to the sea. To the rear lie progressively softer rocks such as Purbeck Limestone, Lower Greensand, Walden Clay and Upper Greensand, with the youngest rock being the Chalk which, although relatively soft, is also very thick. At Lulworth Cove a break was evident in the Portland Limestone to allow the river to run to the sea. This break allowed the sea to erode the limestone and softer rocks to the rear. As the sea reached the chalk, the erosion began to slow.

Beaches

Beaches, with varying characteristics, occur all along the Dorset coast. One notable example is Chesil Beach and the Fleet, for which there are varying theories as to how this substantial raised shingle beach was formed. Traditionally it was thought that the Chesil Beach shingles were driven onshore with rising sea levels at the end of the last Ice Age. It is thought that as the sea advanced, material from what is now Lyme Bay was swept up to form the beach, trapping Fleet lagoon in the process.

In more recent times, it has been proposed that the beach was formed from ancient landslides that occurred in East Devon and West Dorset that were reactivated at the end of the Ice Age. Throughout this period sea levels had been both lower and higher. During a warm spell 125,000 years ago sea levels were slightly higher than they are today. Later, ice sheets formed and sea levels dropped. Without the action of marine erosion, the landslides slumped across the dried up sea bed until they reached a stable angle. With the warming of the climate that started 20,000 years ago sea levels rose, cutting into these ancient landslides, reactivating them and releasing a huge volume of shingle that was carried to the east by long shore drift to form the raised beach that is seen today.

Cliff Falls and Landslides

Cliff falls and rock falls are common along the Dorset coast. The large cracks and fissures mean that the parts of the coastal cliffs are prone to collapse at any point throughout the year.

Landslides are also a common occurrence, at various scales, both large and small. The instability of the coast is due to the numerous situations where porous strata, principally the Chalk and Upper Greensand, over-lie impermeable clays.

As rainwater sinks through the porous rocks, it reaches the underlying clays and can sink no further building up between the rock layers and then seeping out of the cliff face as a series of springs.

Following periods of prolonged rainfall the build up of water increases the weight of the cliff top and with the increased pore pressure reducing friction, large sections of the cliff top can break away. As the cliff top block subsides, it rotates along the slip plane within the cliff, with the result that the flat surface tips back towards the cliff. The resultant effect is considerable volumes of material being moved into the undercliff, the area between the cliff top and beach, generating mudslides within the softer Jurassic clays which then slide towards and across the beach. The undercliffs become terraced due to the more resistant bands of limestone within the clays.

4.2.3. HYDROLOGY AND DRAINAGE

Several rivers are apparent along the Dorset coast, meandering through the County to flow into the English Channel. To the east, the main watercourses are the River Avon and River Stour, the latter which is fed by the tributaries of the Moors River and Uddens Water. Both rivers flow into Christchurch Harbour, draining the landscape to the north and north west. Flowing in Poole Harbour are the Rivers Piddle/Trent and the River Frome, which drain the landscape to the west and north west. Together, the Rivers Avon, Stour, Piddle/Trent and Frome have a considerable catchment within the County. More minor catchments to the west include the River Wey, which flows into Weymouth Bay, passing through the centre of the urban area from the north. Around Bridport, the River Brit, which flows from the north, and the River Bride flowing from the east, both discharge into Lyme Bay. Further west, the River Char flows through Charmouth from the north east to the coast, and the River Lyme enters the bay at Lyme Regis. Historically these river mouths have provided the focus for development of coastal settlements, providing areas of flat land and access to the sea.

Durdle Door

4.3. BIODIVERSITY

4.3.1. INTRODUCTION

The county of Dorset is one of the richest counties for wildlife in England, although like much of England, there has been a decline in semi natural habitats and populations of both rare and common species in the last 80 years mainly as a result of human activity through the loss and fragmentation of habitats. There is an increasing emphasis on the need for the provision for biodiversity at the landscape scale, to address these issues, especially in relation to climate change.

The UK Biodiversity Group has divided the entire land surface of the country and surrounding seas into 27 broad habitat types and Dorset contains 21 of these habitat types, and together these cover the entire land area within the County. At the UK level 45 more narrowly defined 'priority habitats' have been identified of which 32 occur in Dorset and these are the focus for action in the Dorset Biodiversity strategy. Approximately 12% of the County is defined as 'priority habitat.' This excludes the priority marine habitats.

The coastline and marine waters of Dorset support a wealth of wildlife including 16 UK BAP 'priority habitats'. Whilst the habitats on land are well documented and protected, the marine habitats and wildlife are generally less well documented and less well protected. There is mounting evidence that the marine habitats have been significantly modified by human activity resulting in changes in the distribution of some species. The vision for the coast and seas of Dorset (from the England Biodiversity Strategy DEFRA 2002) is for 'a biologically diverse sea and coastline which reconciles human needs with the conservation and restoration of semi natural habitats as far as possible through natural processes'. The point data for BAP habitats is shown on Figure 10.

The UK Biodiversity Action Plan quantifies targets for all priority habitats and species and the national targets have been apportioned to a more local level through English Nature's (now Natural England)

Natural Area framework. Natural Areas are 'biogeographic' zones which reflect the geological foundation, the natural systems and processes and the wildlife in different parts of England. Eight Natural Areas cover Dorset and its marine habitats. Group statements have been prepared for both coastal and marine habitats of Dorset and habitat objectives developed.

4.3.2. TERRESTRIAL HABITATS

The terrestrial habitats of Dorset abutting the coast include a number of important lowland grassland and heath habitats supporting an outstanding diversity of habitats and species that are very rare and of very high quality, hence the large number of designations:

- significant chalk grasslands occur on the Isle of Purbeck, and limestone grasslands occur on the Isles of Portland and Purbeck. Calcareous grasslands are some of the richest plant habitats in Britain and in Dorset some significant and rare BAP species have been found, such as the early gentian and early spider orchid. Chalk and limestone grasslands are also rich in invertebrates;

- outstanding areas of lowland heath are found on the Dorset Heaths. These include extensive areas of dry heath dominated by heather, bell heather and gorses and wet heath with cross leaved heath. A rare form of wet heath also occurs here characterised by Dorset Heath Erica ciliaris. The heathlands support a number of rare and uncommon species and are valuable habitats for invertebrates, natural populations of sand lizards and important populations of heathland birds such as nightjar, woodlark and Dartford warbler. The Dorset heathlands is an SPA for these species and for wintering hen harrier and merlin;

- the Dorset Heaths also support nationally important acid grassland where they are associated with the heaths. In the Isles of Portland and Purbeck acid grassland is unusually associated with limestone overlain by superficial deposits of sands and gravels;

- Small areas of wet grasslands also occur in river valleys of the Dorset Heaths and can withstand waterlogged conditions;

Pioneer communities on humid peat are a feature of the Dorset Heaths valley mires and wet flushes. These habitats are important and two candidate SACs, the Dorset Heaths and the Studland Dunes occur on the Dorset Coast representing this habitat

4.3.3. COASTAL HABITATS

Coastal UK Priority habitats represented on the Dorset coast are:

Maritime cliff and slope – the cliffs and undercliffs of Dorset's coastline comprise both hard and soft cliffs which vary from massive vegetated land slips, high chalk cliffs and pinnacles, grey shales and clays to sheer limestone faces and ledges. These support varied and natural habitats including cliff ledges which provide nesting sites for breeding bird colonies including guillemot and puffin. Other habitats include maritime grassland, flushes, scrub and supralittoral rock. The coastal cliffs expose a complete section through the upper Jurassic to Cretaceous rock succession.

Coastal sand dunes – the only significant sand dunes in Dorset occur at Studland in Purbeck and comprise just over 200 hectares of dune and associated habitat. The acidic dune system supports a large area of dune heath and is the only dune system in south central England to support dune wetland (i.e. open water, mire, swamp, wet heath and wet woodland). The importance of this area for invertebrates, reptiles and vegetation is reflected in its designation as NNR and candidate SAC. Relict dunes also occur at Sandbanks, Hengistbury and Mudeford, whilst there are a series of new dunes forming on Mudeford Spit in front of the beach huts.

Coastal vegetated shingle – coastal vegetated shingle occurs widely around England's coast, however, large shingle beaches where areas have become stabilised and support vegetation are relatively few. Chesil Beach is an exceptional shingle structure and an internationally important breeding ground for Little Terns. Small areas of vegetated shingle also occur in Poole Harbour.

Honeycomb worm reefs (*Sabellaria alveolata reefs***)** – these are mainly found on the lower third of the shore attached to a variety of hard and soft substrates, with an adjacent area of sand for reef building. The reefs bind the underlying substrate stabilising previously mobile boulders and may increase the diversity of the site. The worms may form large reefs up to several metres across and a metre deep.

Mudflats – mudflats are intertidal, soft sediment habitats created by deposition of silts and clays in low energy coastal environments such as estuaries. Characterised by high biological productivity and abundance of organisms, they provide important feeding and resting areas for migrant and overwintering wildfowl. Extensive intertidal mudflats occur in Poole Harbour, an internationally important site for wildfowl and waders. Sea level rise represents a significant threat to mudflats.

Coastal saltmarsh – coastal saltmarshes comprise the upper vegetated portions of intertidal mudflats, lying approximately between mean high water neap tide and mean high water spring tide levels. Saltmarsh is generally restricted to sheltered locations in estuaries and its development is dependent on the presence of intertidal mudflats. They are an important resource for wading birds and wildfowl. In Dorset the largest and most significant area of saltmarsh is found around Poole Harbour with small stands present at Fleet, Lodmoor and in Christchurch Harbour. Dorset has suffered less than other southern counties from saltmarsh reclamation, and the upper saltmarsh zone with transition to reedbed, woodland, mire and grassland is well represented.

Sheltered muddy gravels – this coastal/marine habitat can be sub-tidal or intertidal and in a variety of salinities. It consists of a variety of sediments ranging from fine silt and mud to pebbles and cobbles.

Littoral chalk – littoral rock habitats are widespread throughout the UK varying in species richness depending on geology and wave action. In Dorset this habitat occurs on coastlines formed of calcareous rock, including areas of chalk inundated by the tide. This is relatively crumbly and subject to erosion. There is distinct zonation of species down the shore. Littoral rocks in the south west are richer in species than in similar habitat in the north and east of the UK.

4.3.4. MARINE HABITATS

The marine conditions in the south west represent a zone of transition for benthic fauna from the eastern English Channel (Boreal fauna) to a different community in the western English Channel (Lusitanean fauna), representing a transition between Atlantic and North Sea influences. Species considered to be at the edge of their range and which are more normally associated with the Mediterranean, such as turtles and some exotic fish species, are occasionally reported within the Southwest Peninsula Marine Natural Area. This combined with the varied geology present and transition of coarser sediments in the west to sand in the east produces diverse marine habitats and faunal communities.

The majority of marine habitats do not have UK or Natural Area targets, with the exception of Seagrass beds and Saline lagoons. Habitats for which action plans have been prepared in Dorset are listed below. Of these all but the brittlestar beds are listed as UK Priority habitat.

Saline Lagoons – these are natural or artificial bodies of saline water which are partially or wholly separated from the adjacent sea. They retain a portion of their seawater at low tide and may develop brackish, fully saline or hyper saline water bodies. Saline lagoons are one of the Priority habitats listed within the EU Habitats Directive. The Fleet is the largest saline lagoon in Britain and represents a significant proportion of the UK habitat. Seawater percolates through the shingles influencing the salinity along its length and low freshwater input results in saline conditions throughout most of its length. Where there are tidal rapids within the lagoon, rich sponge communities are found and elsewhere there are important Seagrass (*Zostera*) and *Ruppia* beds. (The Fleet is designated as a RAMSAR site.)

Seagrass beds – Seagrass is one of the few flowering plants adapted to fully submerged marine conditions. These develop in fairly sheltered intertidal and shallow subtidal areas on sand and muds. Extensive beds may stabilise the substratum and provide attachment for associated species. The shelter provided by seagrass beds makes them important nursery areas for fish and a food source for wildfowl as well as a key habitat for seahorses.

Honeycomb worm (*Sabellaria spinulosa*) reefs – these comprise dense subtidal aggregations of small tube dwelling polychaete worms. They serve to stabilise cobble, pebble and gravel habitats. This biogenic habitat created by the worms provides a structure on which many species can thrive. Significant *Sabellaria* reefs have been recorded 4km east of Swanage pier.

Sublittoral sands and gravels –this habitat is permanently submerged and the particle structure found ranges from mainly sand through various combinations of sand and gravel to mainly gravel with occasional pebbles. In the infralittoral zone this habitat is characterised by animal communities which are influenced by a high level of disturbance from wave action. These include amphipods, bivalves and polychaetes.

Tidal rapids – these are defined as strong tidal streams resulting from a constriction at the entrance to or within an enclosed body of water. This is usually in shallows and is rich in renewed food source, resulting in marine communities which are rich in diversity.

Maerl beds – maerl beds is a collective term for several species of coralline red algae that grow unattached on a clean, tidally swept seabed, and may accumulate. Maerl is slow growing but over long periods its dead calcareous skeleton can accumulate into deep deposits (an important habitat) overlain by a thin layer of pink, living maerl. Maerl beds have considerable conservation value as they support a rich associated fauna. There is an important maerl bed off Handfast Point which is the most easterly location in the English Channel. Maerl beds are fragile habitat and easily damaged by human activity.

Sublittoral chalk – this consists of rocky reefs which fringe the coastline particularly adjacent to hard cliffs and shores. Certain areas of chalk

substrate present within the Eastern Channel Natural Area (particularly south of the Isle of Wight) are nationally and internationally important and are protected under the EC Habitats Directive as reef habitat. They support a range of plants and animals depending on turbidity, water depth, tidal streams and substratum stability. A number of species occur which are only present in south west England, including the pink sea fan.

Mud habitats in deep water – these occur below 20-30 metres in the UK's marine environment. The relatively stable conditions often lead to the establishment of communities of burrowing fauna. Of particular interest in Dorset are the fragile sea pen communities in Portland Harbour, a species commonly associated with Scottish sea lochs.

Mytilus edulis - blue mussel beds on sediment are now a national priority BAP habitat, although none exist within Dorset waters. However mussel beds on rock, which occur off Durlston Head and Portland Bill, are local priority habitats. They are biogenic reefs and support a wide diversity of marine invertebrates and fish and have high local biodiversity importance. The mussel beds off Portland Bill are an important natural source of seed mussel which are dredged and used to supply the layings in Portland and Poole Harbours.

Brittlestar beds - are a local priority habitat. Extensive beds have been found approximately 2km off Kimmeridge Bay to the west of Swanage. They are of high biodiversity importance locally.

Fragile sponge and anthozoan communities on subtidal rock - these communities are found on bedrock which is locally sheltered but close to tide-swept or wave exposed areas. They are dominated by large, slow growing species such as branching sponges and sea fans. Larger species of hydroids may be present on prominent surfaces together with bryozoans. Other fauna includes aggregations of the colonial ascidians, together with the yellow cluster anemone. This habitat is found in Western Dorset waters, particularly Lyme Bay.

4.3.5. MARINE SPECIES

Many important 'key species' occur within the South-western Peninsula Marine Natural Area and around the Dorset coastline, including various cetaceans such as bottlenose dolphin and harbour porpoise, seals, marine turtles and fish. Several of these species are covered by UK Biodiversity Action Plans (BAPs). There are grouped BAPs for commercial marine fish, baleen whales (which are seen only rarely in this Natural Area) and small dolphins. There is also a Single Species Action Plan for harbour porpoise. Other BAP species which occur within the Natural Area include basking shark and native oyster, pink seafan, fan mussel, short snouted and spiny seahorses, stalked jellyfish, peacocks tail alga, crawfish and sunset cup coral.

Underwater Photograph courtesy of DCF

4.4. CULTURAL INFLUENCES

4.4.1. INTRODUCTION

Alongside natural processes, humans have shaped and influenced the landscape and seascape; the way it has been populated, managed and exploited over the millennia, has had, and continues to have, a major influence on the diversity and character of the Dorset countryside. Change is generally relatively slow and incremental with each generation adding to the layers of evidence of their forebears. This cultural continuity or 'time depth' is one of the characteristics of the countryside and underpins the way people value the landscapes around them.

The historic environment of the Dorset coast is rich with archaeological remains both on the coast and offshore telling the story of more than five thousand years of human activity.

Evidence of the historical evolution of Dorset's landscape is preserved in a rich archaeological heritage of burial sites, hillforts and ancient patterns of fields, woodlands, hedges, settlements and rights of way. The best preserved sites survive, generally, in the least intensively used areas of land. Along the Dorset Coast there are some fine, visible archaeological remains such as Maiden Castle and the extensive Neolithic- Bronze Age ceremonial landscape of the Southern Dorset Ridgeway.

Clavell Tower

The coastline has also been moulded by its maritime uses. Poole and Christchurch Harbours have, over the centuries, shared the maritime traffic, offering safe haven in their expanses of sheltered inland waters. Both also control major river routes leading into extensive hinterlands and are well signed for approach from the sea by prominent features such as St Alban's Head on Purbeck and St Catherine's Point on the Isle of Wight[8]. The region also boasts considerable natural resources which have been utilised over the centuries (see below).

Ships have visited the coast from as early as prehistoric times, certainly from Brittany and Normandy. By the mid 14th century trade considerably increased dealing particularly in fish and wine from western France, expanding to fish trade with Newfoundland in the early 17th century. As well as Poole, Weymouth and Melcombe were relatively important ports with the towns starting to expand as early as the 12th century. In the 16th century Weymouth and Melcombe amalgamated and there was important trading with Virginia and Newfoundland. In the 18th century, however, these ports lost out to Poole but became popular sea bathing destinations preventing further decline. Portland became more important as a Naval Base from 1845 onwards, with breakwaters being built between 1849 and 1903, which still exist to the present day.

West of the Isle of Portland is Lyme Bay, which can appear to be deceptively calm, and was also known as Deadman's Bay. It has no natural ports or safe havens and has treacherous cliffs and steep shingle beaches. The main settlements of West Bay/Bridport and Lyme Regis, to the western end of Lyme Bay, are sited at river mouths. These river mouths were kept open, as long ago as Saxon times, to provide safe anchorages.

Harbour walls were constructed at West Bay, as early as 1385 and went through various periods of decline and repair for many centuries, to provide shelter from the south westerly winds and tides. Bridport, in particular, was economically significant due to the manufacture of sailcloth, cordage and rope from locally grown flax and hemp. These

8 *Cunliffe, Barry; 'England's Landscape - the West (English Heritage, 2006).*

products were in huge demand up until the mid 19th century when trade went to Weymouth because Bridport could not accommodate larger ships, and subsequently further declined with the demise of sailing boats. Lyme Regis, a small and pretty medieval town, was similarly protected by the Cobb, a harbour wall first constructed in the late 13th century, repaired and reinforced with stone over many centuries until again it was too small to compete with Poole and Weymouth and today only harbours small fishing boats and local coastal traffic.

Palaeolithic (750,000 to 8,000 BC).

The Wessex Archaeology RCZAS modelled the changes to the Dorset coastline since prehistoric times. This revealed the receding coastline showing, for example, Weymouth Bay 30,000 years ago would have been dry land. Large lagoons, at this time, may have supported an abundance of game fish, waterfowl, deer and wild cattle, so it would have been an ideal place for early communities to establish seasonal camps. The report suggests that evidence of these early camps may possibly survive on the seabed. There is some evidence of early human activity such as Palaeolithic terracing in the Axe Valley. Dorset did not experience the full effects of the repeated advances of ice sheets, as their southward movement did not extend into the County but the effects on changing sea levels and climate would have affected the hunting grounds of early man.

Mesolithic (c.8000 to c.4000BC)

As the ice receded, following the last Ice Age, the land and sea levels rose, and it is during this period that the largest changes to the coast are likely to have occurred[9]. A natural succession of vegetation is likely to have taken place with open grasslands giving way to birch and pine forests. Rivers began to settle into their courses, and over thousands of years the land began to sink (a process that continues today on the south coast) causing valleys to drown. This resulted in the separation of the Isle of Wight from the mainland and the formation of Poole Harbour. River valleys, such as the Axe were thought to have been heavily wooded at that time, supporting wild boar and beaver.

Early Mesolithic family groups were likely to have hunted deer, wild boar and beaver whilst also taking advantage of the fish and wildfowl in rivers and along the coast. Small flint scatters have been found close to the present south coast around Hengistbury Head, Christchurch Harbour and on the Isle of Purbeck.[10]

Pollen records suggest that forests started to be cleared as early as 5000BC, making way for grasslands which attracted grazing animals and fruiting shrubs, such as the blackberry.

Neolithic (c.4000 to c.2400BC)

It was a relatively short time (perhaps as little as a thousand years) from the first forest clearances, undertaken for agriculture, to animals such as goats and sheep being herded and fields cultivated for cereals. The first areas to be farmed were the hills where rich, easily worked soils had developed under the deciduous woodlands that had replaced the pines. There was also a slow change to settled lifestyles in which people produced food where they lived and so became tied to the land. The chalk valleys of Dorset are known to have been well settled since Neolithic times.

As a result of increased sedentary lifestyles, communities developed a sense of ownership, history and ancestry on the lands they cultivated and grazed.

Neolithic farming communities, however, were not self sufficient and evidently traded extensively in a variety of raw materials and objects and trade routes using the sea may well have been easier than routes across land. Trading is likely to have taken place at large new enclosures such as the causewayed camp and long mound on the site that later became Maiden Castle. These are generally concentric rings of mounds and ditches and can vary greatly in their complexity and are thought to have been ceremonial in function. They have often revealed exotic and unusual objects and appear to have served several communities.

9 *Wessex Archaeology- RCAZS*
10 *Cunliffe, B, 2006*

They appear to have mainly fallen into disuse by the 3rd millennium BC and replaced by a new type of monument the cursus (such as the Long Bredy cursus). These tended to be massive elongated earthwork enclosures, sometimes directly linked to the old causewayed enclosures. They were also often associated with bank barrows (e.g. Broadmayne) and long barrows (e.g. Hell Stone and Portesham).

These monuments were not randomly spaced but tended to occur at focal points in the landscape, sometimes in such profusion and in obviously related positions to be considered to be 'ritual landscapes'. These landscapes suggest that the region was wealthy in terms of agricultural production as the building of these monuments would have required large contingents of labour which would not have been available if food and every day necessities were not well provided.

Bronze Age (c.2400 to c.700BC)

The social and economic development in Neolithic and the Early Bronze Age appears to have faltered in the second half of the second millennium BC. There is environmental evidence that the soils of southern England were becoming thinner and degraded as a result of the demands of intensive agriculture required to support the increasing population. The tilth that had been so productive began to be washed from the chalklands into the downland valleys and some parts of the southern coastal zone, from Weymouth to the New Forest, started to degenerate to acid heathland. This process has continued, and even accelerated, to the present day.

This resulted in a shift in the economic and social structures of the later Bronze Age, partly due to the availability of new technology and trade in new materials. The demise of these structures is reflected in the changes in burial practices from individual barrow burials in favour of large barrows that contained multiple cremation burials in urns, to large flat 'urnfield' cremation cemeteries.

The Southern Dorset Ridgeway encompasses the most extensive Bronze Age cemetery in the country, comprising a minimum of 428 round barrows in 14 major groups (e.g. Poor Lot, Kingston Russell); there are other round barrows throughout the landscape. Stone circles also date from this period (e.g. the Nine Stones, Winterbourne Abbas). The re-organisation of land and farming methods to improve productivity included formal field systems served by trackways, farmed from houses and small settlements that were set amongst the fields. Examples of such farmsteads have been excavated at Shearplace Hill and Rowden in Dorset. Land very much became the key to wealth in this period.

There is evidence that parts of the coastal plain between Wareham and Christchurch became more heavily settled during the late Bronze Age, as evidenced by the very large urnfield cemeteries and several environmental sequences that show there was intensive agriculture. The fringes of the wetlands also started to be exploited at that time.

The later Bronze Age also saw the economy moving away from being entirely based on agriculture. There is evidence of use of the extensive natural resources in the area, such as the black shiny Kimmeridge shale which was widely used right through to the late Roman period for manufacture of armlets, finger rings, vessels and even furniture. Also salt, evaporated from seawater, was traded far inland right through the Iron Age.

Iron Age (c.700BC to c.44AD)

The Early to Middle Iron Age was a time of greater economic stability. Farming of cereal crops was relatively intensive but settlements remained small. Large areas of land, to the present day, retain the geometric pattern of field systems from this period. The light chalkland soils were more favourable for primitive farming methods than that of the heavy clay vales.

Farming tended to create surpluses that could be traded and exchanged for manufactured goods such as metalwork, pottery and textiles. Many of the trade commodities were the product of 'cottage industries' including trades requiring a high level of skill, such as blacksmithing. An elite ruling class started to emerge which is reflected

in the settlement hierarchy, which included the appearance of fortified hillforts. The hillforts became repositories for agricultural surplus, where goods could be redistributed and also housed sizeable resident populations.

Many of the distinctive summits along the chalk escarpment have the remains of Iron Age hillforts, with over 20 located in the Dorset AONB (e.g. Eggardon and Maiden Castle). The hillforts tended to become more elaborate and defensive over time, although it is not clear how much conflict they actually saw. They do however reflect a period when there was increasing competition and struggle for power. Again a period of relative stability ensued with fewer, larger and more complex centres, more widely spaced within the landscape.

This period up to the Roman invasion included active cross channel trade with British exports including corn, cattle, gold, silver, iron, hides, slaves and hunting dogs. Kimmeridge jewellery was made for this trade. Imports included Italian wine.

Roman (c.44AD to c.410AD)

Within 30 years of the Roman invasion, Dorchester was an important Roman town with Roman roads linking to a port on the Wey (southwards), Exeter to the west, Ilchester to the north-west, Salisbury to the north-east and London to the east. There is also an impressive section of aqueduct in Dorchester that remains from this period.

The Roman period in this part of Britain was a time of peaceful prosperity. Civil and military development under the Roman administration left significant marks along the Dorset coast. There was a thriving pottery industry in Purbeck during the Roman period exporting Black Burnished Ware across the Empire. The Romans also exploited Purbeck for building materials, such as Purbeck marble and a white siltstone. The fashion for Purbeck marble endured into medieval times with huge quantities transported for decorative fittings in churches and cathedrals throughout the country. There was also an increasing demand for imported luxuries such as wines, olives, fish sauce, fine tablewares and glass.

Towards the end of the Roman period, towns such as Dorchester shrank and fortified themselves with massive ramparts and walls for protection.

Saxon, Medieval and Post Medieval (c.410 to c.1800 AD)

During the early parts of this period, the Saxons and Jutes fought and overcame the native population and established colonising settlements. The 7th and 8th centuries saw the rise of the Kingdom of Wessex through fierce battles and complex alliances. This saw a complete remodelling of the countryside with land and property divided and apportioned according to rank and birth, with the land carved into large estates owned by the Kings.

The Normans has a considerable influence on the landscape, leaving landmarks such as the fine castle at Corfe, motte and bailey castles such as at Chelborough and abbeys which were significant and powerful landowners (e.g. Abbotsbury, Cerne and Forde) in the medieval period. There is evidence of numerous abandoned medieval settlements, suggesting that the chalk valleys supported a denser population in this period. It would appear that these were abandoned due to adverse climatic conditions, economic depression and plague. It is thought that the Plague (Black Death) came to England through the south coast ports and Weymouth was one of the first towns to experience the epidemic in 1348. In the 14th and 15th centuries, the hilltop villages shrank further and many disappeared altogether.

Dorset waters played a significant role in several Spanish Armada battles; in July 1588, a general engagement between the English and Spanish Fleets was fought off Portland Bill, where several of the biggest Spanish warships were rendered ineffective.

The field patterns and boundaries laid down at this time underlie today's present-day landscape. By medieval times there was a patchwork of towns and villages, markets and open fields, royal estates and forests, great minsters and abbeys and tiny Saxon churches, green hills, cultivated plains and drained marshes. A fine example of a Romanesque (Norman) church incorporating Saxon-period elements can be found at Studland. Evidence remains of medieval

farming including ridge and furrow, strip lynchets on the chalk escarpments and the fossilisation of strips in modern fields.

By the 18th century informal, piecemeal enclosure had created a patchwork of small irregularly shaped fields and winding lanes and tracks. However large swathes of open chalk grassland remained. The start of the Parliamentary Enclosures marked the latter part of this period (from around 1750). Farmers tended to move out of their old village settlements and build new farmsteads in the midst of their newly consolidated fields. Common woods, heaths and grasslands were also enclosed giving rise to the rectangular, regular patterns of field systems, bounded by hedges and low field banks still seen in many parishes today.

There is also evidence of early industry, such as watercress beds, water meadows and associated weirs, channels and sluices, sheep washes, and quarrying. There was a growth of country houses and their designed landscapes (e.g. Melbury). The flax and silk industries flourished around Beaminster and Bridport, with rope and net manufacturing still occurring there today and serving the fishing industry.

Turnpikes built during the late 18th century represent the first systematic system of 'made' roads since the Roman roads.

Industrial and Modern (c.1800 AD to present)

During this period the industrial revolution largely passed Dorset by, as the rural economy was still very much agriculture-based. Enclosure of land continued, resulting in major changes to the landscape, with the downlands being further enclosed and converted to arable. Agriculture also became more mechanised leading to widescale reductions in labourers on farms and unemployment. Conditions in the countryside were often dire and town populations grew rapidly. The farming community gave rise to the first form of organised labour group when farm labourers took an oath of mutual support. This group was outlawed in 1832 and the six leaders (the Tolpuddle Martyrs) were transported.

Also in this period the railways were developed, with a number of lines running through Dorset, including the South western line that ran from London to Bournemouth, Poole, Dorchester and Weymouth. There were also small branch lines to Bridport and Swanage. This led to the increasing popularity of the coast as a tourist destination. As early as the 18th century, George III took holidays at Weymouth, while he was ill, and the seaside resorts of Bournemouth and Weymouth have been popular since those times. The Swanage railway has been re-opened as a heritage railway. Relics of this period also include lime kilns and Brownsea's brick making industry.

By the end of the 19th century there were more people working in industry in towns than were working in agriculture.

During the First World War extensive woodland and scrub clearance took place on the downlands as these were ploughed up for cereals. Mechanisation on farms together with the huge loss of life in the war, resulted in significant decreases in the rural population. With the threat of a new war looming, further areas of pasture were ploughed up to maximise cereal production.

The first half of the 20th century also saw the establishment of conifer plantations, especially on the heathland leading to significant changes in character and loss of biodiversity.

During World War I and II the Dorset coast was important for the Royal Navy and so was also a target for military action. Portland Harbour was, for many years, and during the two Wars, an important Naval Base. British, American and Canadian ships gathered in the harbour and in Weymouth Bay before the D-Day landings and a number of training exercises also took place along this coast at the long sandy beach at Studland. Portland continued to be used as a NATO and RN training base until the 1990s. There is significant defence infrastructure and relics along the coast including radar stations, coastal batteries and anti-tank blocks and pill boxes.

Post-war intensification of agriculture continued with the ploughing of slopes and elevated downland, and removal of hedgerows and field boundaries to create larger fields. This resulted in a decline in chalk grasslands and hedgerows, with associated loss of habitat, as well as archaeological features and, in some instances, topsoil.

Increases in population and settlement size and upgrading of road networks to improve access, together with the routing of pylon lines, placing of masts on high points and other infrastructure have all had an impact on the rural character of the landscape, throughout the latter half of the 20th century. However there have been recent improvements, through agri-environment schemes, with hedgerows being re-planted, and changes to the management of, for example, calcareous grasslands, which have resulted in some of the key characteristics of some landscapes being restored, such as on Purbeck. This will, in turn, have a beneficial effect for biodiversity.

Dorset's importance as a tourism destination has continued to increase and now rivals agriculture as the main economy of the County, in particular due to its dramatic coastal scenery, the unspoilt rural character, the unique qualities of the World Heritage Site and the seaside resorts with their high quality beaches. This has led to the expansion of recreational facilities including holiday villages, golf courses and caravan sites within the rural landscape, leading to localised changes in character.

The increase in activities such as water sports and outdoor activities together with visitor facilities attract large numbers of visitors to Dorset, especially in summer. There has also been a reinvigoration of traditional crafts with emphasis on local products. The Dorset coastal waters are also an important recreational sailing area, and will host the sailing events for the 2012 Olympics, in Weymouth Bay and around Portland Harbour.

SECTION 5

CURRENT INFLUENCES ON LANDSCAPE AND SEASCAPE CHARACTER

Lulworth Cove

5.1. INTRODUCTION

Dorset's coastal environment is subjected to a variety of competing pressures all of which have potential to re-shape the character of the landscape and seascape. The main pressures are outlined below and include natural processes such as erosion and human impacts and activities such as climate change, tourism and recreation, which is a key component of the Dorset economy, and agriculture and fisheries. In addition there are industrial activities such as minerals extraction, oil and gas and energy generation (including significant opportunities for renewable energy), and shipping activity, all of which have the potential to affect the coastal and seascape character. Military activities are also still important along the coast, whilst the biodiversity and conservation of the coastal waters is receiving considerable attention through various initiatives designed to develop a much greater understanding of all aspects of the marine environment.

5.2. COASTAL EROSION AND DEFENCES

The Department of the Environment, Food and Rural Affairs (DEFRA) has responsibility for policy related to flood and coastal risk management. Delivery is the responsibility of a number of operating authorities including the Environment Agency who have a strategic overview for this type of coastal management, and the Coastal Protection authorities, which include District, Borough and Unitary Authorities, but not County Councils. Operating authorities are empowered under the Coast Protection Act, 1949 to carry out works in their area to protect the coast from erosion. The construction and maintenance of works to resist coastal flooding is carried out by the Environment Agency in accordance with the Water Resources Act 1991.

Policies for coastal defences are identified within Shoreline Management Plans (SMP) which provides a large-scale assessment of the risks associated with coastal processes and present a policy framework to reduce these risks to people and the developed, historic and natural environment in a sustainable manner. SMPs are generally updated every 10 years.

Each SMP covers an area of coastline known as a sub-cell within a littoral sediment cell. A sediment cell is defined as a length of coastline, which is relatively self-contained as far as the movement of sand or shingle is concerned, and where interruption to such movement should not have a significant effect on adjacent sediment cells.

There are two SMPs which include the 3 sub-cells of the Dorset Coast: Poole and Christchurch Bays SMP from Durlston Head to Hurst Spit, and the South Devon and Dorset SMP from Durlston Head to Rame Bay. These outline how different parts of the coast should be defended. The options considered are:

- **Hold the Line** – defences are maintained and upgraded/replaced in their current position or renewed
- **Advance the line** – build new defences seaward of the existing defence line
- **Managed Realignment** – allowing retreat (or advance) of the shoreline, with management to control or limit that movement. Any increase of flood risk will also be managed
- **No Active Intervention** – a decision not to invest in providing or maintaining any defences

The authorities responsible for these developments have come to realise in recent years that defences may be more cost effective and enduring if, rather than fighting nature, they harness and enhance the natural coastal processes. Establishing a natural regime has the added advantage of retaining the wildlife of the area and enhancing the quality of the landscape. Also due to the scale of operation of the natural coastal processes, which pay little regard to administrative boundaries, successful man-made defences in one area may have damaging effects on neighbouring stretches of coastline if they interfere with the natural movement of sediments.

The defences proposed for various parts of the Dorset coastline vary significantly. The most significant threat to the Jurassic Coast WHS would be the creation of artificial structures along the coast that would affect the natural process of erosion or obscure the exposed geology[11]. Sea defences might include works to protect property or infrastructure or construction of marinas, harbours or jetties. There are locations within the WHS which could warrant coastal defences in the future, and which would vary in their significance with respect to the value of the WHS. The Management Plan therefore indicates that the impact of each proposal would need to be assessed on a case by case basis. However it is more likely that the SAC/SSSI designations would have a more material influence on any decisions regarding new/hard defences. In addition, English Heritage has produced a Guidance Note on Shoreline Management Planning and the Historic Environment, and RCZAs are designed to enhance the record of the known historic environment to inform the SMP process.

West Bay

11 *World Heritage Site Management Plan – 2009-2014.*

5.3. AGRICULTURE AND FISHERIES

5.3.1. AGRICULTURE

Agriculture is a significant land use along the Dorset coast covering over 80% of the land area. Farming types reflect the wide range of soils, hydrology and topography. Stock farming is dominant in the wetter, steeper and more marginal areas and dairy and arable dominate on the more freely draining soils that are more easily cultivated. Horticulture occurs mainly on the Grade 1 soils, but does not take up large areas. There are some orchards and vineyards along the coast.

There has been a decrease, over the past twenty years, in the number of medium sized farms (20-100ha), with an increase in numbers in both larger farms (over 100ha) and smallholdings.
In the same period livestock numbers have steadily decreased, which has implications for the management of grasslands. The agricultural industry continues to lose employment with reduction in labour intensive dairy giving way to arable or beef. The maintenance and restoration of many terrestrial habitats rely on low input agriculture and traditional woodland management.

Climate change is likely to affect crop choice, with potential change to crops more suited to drier and warmer conditions, such as vines and sunflowers, which would have an impact on landscape character.

In addition changing patterns of rainfall could result in increased soil erosion and less water reaching the aquifer to replenish groundwater, which in turn could limit supply for domestic and industrial uses.

Agriculture and urban drainage contribute substantially to diffuse pollution in estuaries and coastal waters and accounts for over 80% of marine pollution in the south west of England. Along the Dorset coast the main settlements are located on estuaries and the coast. The European Water Framework Directive (2000) became part of UK law in 2003 and aims to encourage a holistic approach to managing waters by protecting and enhancing the quality of surface freshwater, groundwater, groundwater dependent ecosystems, estuaries and coastal waters to one mile below mean low water. In order to implement the directive the Environment Agency and DEFRA have commissioned River Basin Management Plans (RBMP) and the South West River Basin District RBMP, which includes Dorset, was published in December 2009.

There are also initiatives such as the Catchment Sensitive Farming Delivery Initiative – CSFDI, which encourages land managers to ensure that diffuse emissions of pollutants into rivers, groundwater and other aquatic habitats is maintained at acceptable levels.

5.3.2. FISHERIES

There are approximately 120 inshore fishing vessels which hold permits to fish commercially off the Dorset coastline, operating from the ports of Lyme Regis, West Bay, Portland, Weymouth, Lulworth, Kimmeridge, Chapman's Pool, Swanage and Christchurch Harbour. To varying degrees, these ports have associated landing facilities, fish merchants and fish processors as well as support services that maintain the boats and their equipment.

The eastern coastal waters of Dorset are relatively sheltered, with areas such as Poole, Portland and Weymouth Harbour, enabling many of the smaller vessels which characterise the coastline to fish in relative safety for high value species such as sole, bass and lobster. Further to the west the coast is more exposed to the prevailing south westerly winds and most of the fishing boats are day boats, with smaller 4-5m punts operating close in and in the harbours, with larger potters (up to 12 m) operating out to mid channel. The potting fleet is increasing, and is mainly operated by full time fishermen, whilst angling (both charter and recreational) is a year- round industry which is of considerable importance to the local economy. It is thought that anglers and hobby fishermen contribute a considerable proportion of some species' landings. Crab[12] *Cancer pagarus* and lobster *Homarus gammarus* provide up to half of the value

12 *Cefas – Coastal Fisheries of England and Wales Part V, 2005-06*

of all landings, with other shellfish, such as mussels *Mytilus edulis*, clams, scallops *Pecten maximus* and whelks *Buccinum undatum*, providing a further 25%, approximately, and finfish such as sole *Solea solea*, bass *Dicentrarchus labrax* and plaice *Pleuronectes platessa*, making up the other 25%.

The variety of fish along the coast has encouraged fishermen to be versatile and many inshore boats are equipped to exploit the seasonal fisheries. This enables them to be flexible and to cope with changing market conditions. The bass fishermen use gill and trammel nets and these provide income for many part time and casual fishermen in the warmer months. This species also provides an important commercial line and handline fishery in the areas of the Portland Race/Shambles for smaller vessels operating out of Weymouth and there has been a trend to switch from netting to rod and lining which usually takes place at dusk and dawn. Bass are also a key species for the recreational angling industry. Important nursery areas for this species also exist in the Fleet, Portland and Poole Harbour.

There are areas within both Poole and Portland Harbours which are designated as European Union Shellfish waters, as well as various shellfisheries within Portland Harbour including potting for prawns *Palaemon sp.* and areas which are harvested for scallops. The semi enclosed area of Poole Harbour provides an important fishery for clams (including manila clams which provide winter fisheries for up to 30 small boats), cockles *Cerastoderma edule*, oysters *Ostrea edulis*, prawns and crabs (including brown, velvet, green and spider crabs). The area is also characterised by large areas of mussel relaying which extend for over 500 acres. Juvenile mussels are taken off Portland Bill around the Shambles area and from other fisheries and re-laid into the Harbour. Poole Harbour has historically also been important for migratory fish with licensed fisheries in the estuaries of the Frome and Piddle for salmon *Salmo salar* and sea-trout *Salmo trutta* as well as licensed fisheries for yellow and silver eels *Anguilla anguilla* using fyke nets.

Most of the smaller vessels not based at Weymouth or Poole fish out of Kimmeridge, Lulworth and Swanage and set pots and nets for crabs and lobsters along the inshore reefs. Commercial divers also gather scallops from the rough grounds on Lulworth Bank during the summer months. There are also a number of sports divers who gather scallops, crabs and lobsters in the area. Important inshore potting area for lobsters, crabs and whelks and netting areas also occur to the west of Portland Bill along the inshore reefs and coastline near the ports of Bridport, West Bay and Lyme Regis. Some inshore potting for cuttlefish *Sepia officinalis* also takes place in spring along this stretch of coastline.

The inshore area west of Portland Bill provides grounds for a few inshore trawlers and scallopers during the winter months. Further offshore, in the west of the Study Area, are important fishing grounds for the larger demersal fishing vessels and beam trawlers targeting species such as sole and plaice. These vessels also catch and seasonally target cuttlefish and squid *Loligo sp.* Bass are taken further offshore by visiting pair trawlers, which often land their catch in France, and these trawlers also take herring *Clupea harengus*, mackerel *Scomber scombrus* and sprat *Sprattus sprattus* during the colder months.

The above seasonal fishing activities all contribute to patterns of activity within the coastal waters off Dorset.

The local products also contribute to the area's reputation for food and are important for the tourism industry. With increasing demand for local and regional, organic and fair trade products, as well as food security, this may influence future fishing trends.

Marine sourced litter is a significant problem on the beaches along this coastline and is a threat both to the cleanliness and perception of beaches, but also to wildlife, which can become entangled in discarded nets etc, especially seals, cetaceans, turtles and seabirds. Fishermen are encouraged to participate in projects such as 'Fishing for Litter' which provides facilities, both on board and in port, to collect and dispose of rubbish trawled up during fishing activities.

Fishing activity however can have other impacts such as damage to the seabed by certain types of fishing gear. Over-fishing could impact on biodiversity and there is also incidental capture of non-target species. This may include commercial and non commercial fish, seabirds and sea mammals and cetaceans. The industry is looking at measures to reduce the incidence of by-catch.

Fisheries in the region may be affected by four main factors in future:

- The complete closure to some fisheries of areas considered important for biodiversity or the limitation of selected activities that are detrimental. To meet the needs of the conservation objectives of SACs or future MCZs, management measures may be implemented that reduce or halt certain fishing activities on sites. In terms of SACs, decisions will be made by the competent and relevant authorities. For the MCZ, recommendations, spatial or seasonal closures and gear restrictions will be made through the deliberations of the working groups of Finding Sanctuary (although final management plans will lie with competent and relevant authorities). A closure was implemented in 2008 for 60 square nautical miles in Lyme Bay to vessels using towed fishing gears, with the exception of mid-water pelagic trawls. This was intended to protect the delicate reef systems of the bay;

- Reform of the Common Fisheries Policy (CFP). Discussions and consultations are currently underway to reform the CFP. These are intended to be radical and address many of the perceived issues with the policy. One likely outcome is that management will be devolved from the European Commission to a more regional level. It is not known how this will, in practice, affect fisheries at the local level;

- Climate change. Climate-forced changes in sea surface temperature (SST) have been found to have significant effects on the distribution and behaviour of many marine species and have knock-on effects through the marine food web. This has meant that species that have previously been restricted to warmer southern waters are now found in Dorset waters while other colder water species may have moved north. Temperature is key to the behaviour of some species and is an important factor in their breeding / spawning success. Studies undertaken (by Cook & Heath of Cefas) have indicated that there is a detectable effect of temperature on cod, saithe, plaice and sole recruitment. This factor may lead to a change in the populations and therefore species available for exploitation in the region. It may therefore be that, in time, fishing practices adapt to target a changing species make up.

- Changes in the approach to the management of fisheries – the Marine and Coastal Access Act, 2009 strengthens and modernises the powers to manage inshore fisheries and the marine environment. It allows for the replacement of the Sea Fisheries Committees (SFC), of which the Southern SFC included the Dorset coast, with Inshore Fisheries Conservation Authorities (IFCAs). This will take place in April 2011. There are expected to be 10 IFCAs around the coast, covering waters out to the 6nm limit. Whilst promoting the sustainable management of inshore fisheries, the IFCAs will also support the conservation objectives of designated sites, such as SSSIs and Ramsar sites, and/or Marine Conservation Zones within the IFCA district.

The distribution of fisheries and sizes and numbers of boats are illustrated on Figures 11 to 13.

5.4. TOURISM AND RECREATION

The distribution of the main tourist facilities and activities relating to the coast and coastal and offshore waters are shown on Figures 14 and 15. The Dorset coast attracts a large number of tourists to its dramatic coastal landscape. Management of visitors is key to ensuring that numbers do not detract from the tranquil and remote character of much of the coastal landscape. Visitor management

considerations must include access and sustainable transport, responsible tourism, awareness and information provision and safety both along the coast and in the immediate hinterland. Currently, promotions along the coast, in particular within the World Heritage Site, are focusing on encouraging people to visit outside of the normal tourist season and to get to and around the coast sustainably and supporting green initiatives and businesses.

Rights of way along the Dorset coast also contribute to tourism activity. Situated adjacent to the coast following cliff tops, lagoons, beaches and the urban environment is the Dorset Coast Path which forms part of the 630 mile South West Coast Path National Trail. It is essential that footpaths are maintained and links with beaches and viewpoints are retained, and that inappropriate use of the footpaths is discouraged, to avoid unnecessary erosion of the coast. Whilst promoting access in some areas, it is important for other areas to remain inaccessible, principally to allow for the protection of ecologically sensitive areas and to reduce pressures on biological interests.

Beach water quality has improved considerably, taking it to an all time high in Dorset, as a result of massive investment by the water companies in sewage treatment plants and infrastructure. This has been reflected by a rise in bathing water quality and the retention of European beach awards by the major tourist beaches. However beach waters can be influenced by extended periods of heavy rainfall during the summer, which can lead to pollution from surface water runoff from farmland and urban areas, and the more frequent operation of combined sewer overflows (CSOs) into streams and rivers, estuaries and the sea. Bathing water can therefore vary considerably from year to year and season to season.

Inappropriate tourist activity along the coast can include irresponsible fossil collecting. This can lead to the loss of key scientifically important fossils and the ability to undertake further research on the site.

Motorised marine recreation is evident along the coast, most notably around Swanage, Bowleaze Cove and Lyme Regis. Whilst these activities have the potential to create noise impacts, the sites are relatively limited and contained. However, with the continued growth of sailing and power-boating, there is likely to be additional demand for mooring and marina facilities. Other water based activities include power-boat racing, dinghy sailing, canoeing, surfing, wind surfing, diving, water skiing and the use of personal water craft, rowing and tourist boat trips. Whilst sailing itself has only a limited impact upon the marine environment, anchorage of yachts in areas such as Studland Bay, for example, has the potential to damage seagrass. The Bay is extremely popular as a safe anchorage and up to 300 boats can be moored or anchored there on summer days. Damage to seagrass could, in turn, impact on seahorse populations within the Bay, although it is unclear exactly how they are affected. There are differing views of the best mechanisms to protect the seagrass beds and seahorses, varying from total protection, to allowing existing recreational activities to continue. Studies are underway, through the Studland Bay Seagrass Project, to assess the impacts of anchoring by the implementation of a voluntary No Anchor Zone where the health of the seagrass can be monitored.

Other activities such as power-boating, water skiing and jet skiing can have impacts along the coast, in particular if they conflict with quieter traditional beach activities and nature conservation objectives.

Further pressures include marine transport, and the use of sensitive areas as landing points.

Recreation - Courtesy DCF

5.5. FOSSIL COLLECTING

The collecting of fossils along the Dorset coast represents an important educational and recreational activity, with specimens new to science rescued almost every year thanks to the efforts of local collectors. The fact that some of the most important exposures are subject to rapid erosion means that, without active responsible collection, much of the fossil resource would be lost to the sea and destroyed. Where cliffs are harder and more robust to the forces of erosion, they are often more vulnerable to inappropriate fossil collecting. Irresponsible, and therefore damaging, collecting can arise from any form of collecting, whether it is professional, amateur, visitor, educational or scientific.

Responsible collecting of fossils is vital to the protection of the coast, allowing all to have an understanding and appreciation of its scientific value. At a national level, Natural England is promoting responsible collecting, whilst the Geologist's Association has developed a Code of Conduct for Geological Fieldwork. At a more local level, a voluntary Code of Conduct has been developed along the West Dorset coast, which also has support at a national level.

5.6. MINERALS AND OIL AND GAS EXTRACTION

Stone, aggregates, sands, gravels, clays and oil are all important economic resources to the County, and their distribution is based on the underlying geological resource.

Portland and Purbeck stone have been quarried locally over many centuries, and this continues to the present day; Purbeck Planning Authorities are still able to specify the use of local stone in new buildings. However quarrying has declined over the past 100 years, leaving many disused quarry sites which have become overgrown or have been filled in. Some of these sites are RIGS or SSSIs but without management they continue to decline.

There are licensed extraction areas for marine aggregates to the south east of Poole in Poole Bay, with sand and gravel aggregates used for concrete production, road construction, building and also for beach replenishment and coastal defences.

Marine aggregate extraction in the Poole licensed area produced 72,551 tonnes in 2009, but there are few potential extraction sites elsewhere in Dorset. As pressure on land based aggregates increases there could be greater emphasis placed on marine aggregates, with secondary and recycled aggregates potentially playing a greater role as well. The physical impacts of aggregate extraction arise from removing the substrate and altering the seabed topography, increasing turbidity in the water column in the area of activity and sediment re-deposition. Dredging disturbs the benthic community and can reduce the number and diversity of benthic species. Appropriate selection of dredging and extraction sites is important and possible seasonal restrictions on working sites may also help. The main dredging and dredging disposal areas are shown on Figure 16.

There are no offshore gas or oil fields in production or under development off the Dorset coast, but there are several blocks licensed in Poole Bay and inland, including under Poole Harbour. The extent of the main hydrocarbon fields are shown on Figure

16. Around Poole there have been a number of exploratory wells with significant deposits of oil known to exist. There is also a 'nodding donkey' at Kimmeridge which continues to produce small quantities of oil. Any activities for or in connection with the exploration or production of petroleum which are situated wholly on the UK Continental Shelf Designated Area are subject to the Offshore Petroleum Activities (Conservation of Habitats) Regulations 2001.

Impacts from exploration can include adverse effects from discharges of cuttings causing physical smothering which can eliminate benthic fauna and chronic pollution of the benthos. Seabed disruption can also occur as a result of platform construction and its subsequent use. Accidental spillages can occur from refuelling of the rig and pipeline installation can disturb the seabed. There is also a small risk of blow outs although this is rare.

5.7. LANDFILL AND OFFSHORE WASTE DISPOSAL

The main landfill sites serving Dorset are all located in old mineral extraction sites, around Wareham, Poole and at Crossways. As with all Local Authorities there is a drive to recycle and re-use waste to reduce quantities requiring disposal as landfill. Issues associated with landfill include obscuring areas of interest along the coast, the introduction of alien materials and visual intrusion. There are also potential threats to the coast from historic unlicensed tipping exposed by coastal erosion. For example, in 2008 a very substantial landslip occurred on the cliffs between Lyme Regis and Charmouth, which exposed an unlicensed landfill site.

The disposal of waste or other matter into the sea is prohibited under the OSPAR Convention, with the exception of dredge material, waste from fish processing, inert material of natural origin and (until 2004) vessels and aircraft.

A range of materials were disposed of in the past including sewage sludge and industrial waste but this was phased out during the 1990s.The largest site, historically, for the disposal of sewage sludge was in Lyme Bay. The long term effects of sewage sludge disposal on these sites, is still to be fully understood, but is being researched under the National Marine Monitoring programme.

There are sites for the disposal of dredged material in Poole Bay, which are shown on Figure 16. This is controlled under the Food and Environment Protection Act 1985. This dredged material is usually associated with material removed to keep navigation channels open or material removed during coastal construction engineering projects. Dredgings from ports and harbours can be contaminated with heavy metals, nutrients, organic pollutants etc. However there are guidelines that control disposal. Open water disposal of uncontaminated dredge material appears to cause few long term problems. The short term effects include, increased turbidity, smothering of benthos, potential effects on sediment size and distribution, which could have an effect on fish spawning, and change in bathymetry of the seabed that could affect benthic and demersal communities.

Defra's policy is to minimise disposal of clean dredged materials, in favour of beneficial uses such as beach nourishment, saltmarsh restoration or mudflat enhancement. This also helps to reduce loss of material from coastal 'cells'.

Marine litter is still a considerable problem for the marine environment and coastal communities. Waste can come from shipping, fishing and recreational activities and can also be blown into the sea or transported down rivers. Floating debris can entangle cetaceans, seals, turtles and seabirds. The dumping of litter from ships has been prohibited within the English Channel since1991.

5.8. ENERGY INCLUDING RENEWABLE ENERGY

Renewable energy electricity targets have been identified for Dorset which would meet approximately 10% of the current electricity demand by 2010. Whilst some of this could be provided by onshore wind turbines, the focus in Dorset is on offshore wind. C-SCOPE has started to address this issue through an offshore renewables capacity study. This study looked into the wind, wave and tidal resource for the region and made observations based on the minimum feasible operating criteria of the three marine renewable energy technology groups as to where sufficient resource exists to allow potential development. The tidal power resource is illustrated on Figure 16.

In January 2010, as part of their Round 3 offshore wind programme, The Crown Estate leased 723 km2 of seabed to the Dutch energy company Eneco. The company estimates that 30% of this West of Wight zone could be developed, giving an approximate capacity of 900MW, which would significantly contribute to Dorset's renewable energy targets. Construction is currently expected to commence in 2016, and to be completed in 2018. The extent of the West of Wight Zone is shown on Figure 16.

The offshore renewable capacity report identified two further areas within Dorset waters as having the potential for future development. However, whether any further development occurs would depend on the Government's appetite for further offshore wind development beyond Round 3 and also the level of development considerations and constraints that exist in these inshore waters when compared to more offshore localities around the UK.

The report also identified the potential for tidal stream development off the coast of Portland Bill. Whilst a number of development constraints and better financial incentives elsewhere have prevented development to date, it is an area of high resource potential and therefore may be targeted by developers in the future.

As would be expected given the County's location in the English Channel, no suitable wave resource exists within Dorset's waters.

Any offshore energy development is likely to have the potential to interact with the existing seascape character over the construction, operation and decommissioning phases of the development.

During construction there may be a range of vessels operating in the area of the windfarm. There is also likely to be associated activity on land, where the cables come ashore and where these connect into the grid. During operation the turbines will provide a highly visible landmark within the seascape, and there could be other seascape impacts on the seabed and within the water column. There will also be associated maintenance activity on a needs basis.

Onshore the cables are generally located underground and visible structures may only be the substation, where the cable is linked into the grid.

Example of an Offshore Wind Farm at Gunfleet Sands

5.9. INFRASTRUCTURE AND TRANSPORT

There is a wide variety of shipping, in both size and purpose of vessel, that uses the English Channel. The international nature of much this traffic makes it difficult to develop policy except at Central Government level.

There are cross channel ferry ports at Weymouth and Poole which operate more frequently in the summer months, with ferries (conventional and High speed) crossing to the Channel Islands and French ports on the Brittany and Normandy coast. Passenger and car ferries pose very little threat to the marine environment when compared to tankers and cargo vessels, although grounding incidents can have an impact due to disturbance of the seabed. In shallow waters bow-wave wash can cause erosion when it reaches the shoreline and propellers can also cause disturbance to the seabed.

Portland Harbour is one of the largest man made harbours in the world. The Harbour is used by all nature of vessels from commercial ships such as bulkers, tankers, container ships, car carriers and survey ships to foreign and British naval vessels. The Port is also visited by various cruise ships, bringing visitors to Dorset and numbers are increasing annually.

Land-based commercial activities on the Portland Harbour Authority Ltd estate include fuel storage, natural gas storage, engineering facilities, a major cable- laying company and a shellfish specialist. Poole Harbour is one of the largest natural harbours in the world but is generally shallow with a single dredged channel which accommodates cross channel ferries at all states of the tide. There is some freight transport using the quayside at Hamworthy, whilst fishing vessels use Poole Quay.

The main shipping routes that come into Poole and Portland are perpendicular to the coast out to the main east-west shipping lanes of the English Channel and routes south to the Channel Islands and northern France. The main routes are illustrated on Figure 17 although the datasets are not comprehensive.

There is also a small harbour at Weymouth which is mainly used by sailing boats, but also has a cross channel ferry to France and the Channel islands in summer. It has the advantage of being sheltered from prevailing winds and with one of the lowest tidal ranges in the UK, making harbour access easy. It is also home to a large professional angling fleet. Christchurch Harbour, at the eastern end of the Dorset coast, is a small natural harbour but is mainly used by yachts and small fishing vessels. Similarly Lyme Regis, although it has a man-made seawall at the Cobb, is now largely used by small pleasure boats and fishing vessels, under 9 metres in length.

A study is also underway to investigate the long-term potential for waterborne transport along the Jurassic Coast World Heritage Site, which would offer an enhanced, reliable and realistic alternative transport opportunity for both functional and leisure journeys, and would enable integration between waterborne and surface transport. The necessary infrastructure for such a scheme would need to be considered.

The grounding of the MSC Napoli container vessel off Branscombe Beach, Lyme Bay, in January 2007 highlighted the risks associated with this international shipping traffic, for the amenity of the coast, and for its scientific and wildlife value. In particular the risk of large quantities of crude oil washing up on beaches is significant and could interfere with, for example, the shingle beaches of the coast and the movement of pebbles within and along beaches, which currently protect and influence the erosion of the cliffs behind.

The report on Marine Environmental High Risk Areas (MEHRAs) has identified coastal areas that are at risk due to a high incidence of shipping activity and high environmental sensitivity; Portland and parts of the Western Solent area are considered to be at high risk.

Lyme Bay has been used for ship-to-ship oil transfer since the 1960's due to its proximity to the main shipping lanes, and the availability of shelter in the western half of the bay. These transfers were for imports/exports to and from the UK.

Following the 1993 Braer disaster off Shetland, it was recommended that ship-to-ship transfers should be better regulated and that the number of locations where this activity be permitted reduced to two, with Lyme Bay being one of these. However, the ship-to-ship transfer operations in Lyme Bay were only given a semi-formal status in 1998, when the UK Maritime and Coastguard Agency published draft Regulations to control activity in the area.

Currently, transfers are regulated by the Maritime & Coastguard Agency (MCA) under their 'Quality Assurance' system, which involves an assessment being made on a range of factors, relating to the vessel, the type of cargo and sea conditions. For each transfer an emergency plan is prepared.

This situation has been reviewed recently and there are proposals to end this practice. Under the proposed Merchant Shipping (Ship-to-Ship Operations) Regulations 2010, the MCA expect that this operation would take place within the sheltered confines of harbour waters (such as at Portland) instead of in open waters, thus in the event of a spill the oil can be more easily contained and broad scale impacts prevented. The provision of a port to service these requirements, would be subject to intense competition from ports around the UK and, therefore, there is no certainty that a port local to Lyme Bay would be utilised.

The alternative would be for these operations to take place outside UK territorial waters.

Offshore Shipping courtesy of DCF

5.10. MARINE AND NATURE CONSERVATION

The UK Government has committed to European nature protection measures, that require a network of marine protected areas to be established within UK waters by 2010 (part of a European wide process known as Natura 2000). Natural England and JNCC, as the UK's Government advisory bodies for nature and conservation, are responsible for the identification of such areas. In 2007 Natural England began investigations into the waters off the Dorset coast, as part of a UK wide programme to identify suitable Annex I habitat that could potentially serve as future Special Areas of Conservation (SACs) to help meet the 2010 commitments.

Following detailed investigations the Poole Bay to Lyme Bay possible SAC (pSAC) was identified and put forward by Natural England. Three of the four areas which make up the pSAC are within Dorset waters:

- Lyme Bay;
- Portland Bill;
- Swanage to Ringstead Bay.

Following consultation, this site has subsequently been split into two; Lyme Bay to Torbay has been submitted to the European Commission for designation but the other part, Studland to Portland, is still under consideration and remains to be consulted upon.

Under the mechanisms enacted under the Marine and Coastal Access Act, 2009, it is likely that new Marine Conservation Zones will be designated in the area. The MCZs will incorporate habitats and species of national importance, which are not already included in the existing Natura 2000 series of sites (i.e. SACs and SPAs) and SSSIs and may well overlap with existing protected areas. Management of the new SACs will be undertaken by the relevant and competent authorities in line with current practice for existing sites, where any plan or project that is not connected with or necessary for the management of the site and is likely to

have a significant effect, requires the competent authority to carry out an appropriate assessment to determine whether it will have an adverse effect on site integrity.

The management of the new MCZs has yet to be determined but is likely to follow similar lines. Management proposals that allow for the sites to meet their conservation objectives will be developed as part of the stakeholder-led process. It may be that activities that have some effect on a site are reduced, completely ceased or seasonal restrictions implemented.

5.11. MILITARY ACTIVITIES

There is a long history of military uses along the Dorset Coast. Historically the most significant site has been the naval base at Portland, established in the 1840s although this has now closed. There are also a number of army training areas including the Army Gunnery School at Lulworth, the Wyke Regis Training Area and the Royal Marines landing craft training centre at Hamworthy. These are all likely to continue into the future.

Lulworth live-firing ranges are located between Lulworth Cove and Kimmeridge Bay with defined sea danger area of around 30,000 hectares, the extent of which is indicated on Figure 18. About 70,000 high explosive shells are fired each year. The Army has recently signed a 100 year lease on the facilities. Safety requirements mean that public access to the coast within the ranges is not permitted for much of the year. Access is generally only permitted at weekends and during the main school holiday periods. The limited public access and reduced agricultural activity within the ranges has had some benefits for wildlife. It has also restricted access to important geological sites such as the Fossil Forest at Lulworth. The sea danger areas also restrict recreational boating and fishing for much of the time outside the main holidays.

The Wyke Regis Training Area is used mainly by the Army, although public use of climbing facilities and adventure training has increased over the last few years. Two sites are located on the northern side of the Fleet including a small arms range that extends across Chesil Beach and out to sea, also shown on Figure 18. The range is typically used for 150 days per year and sentries are posted when it is live to police the footpaths and offshore area. There is also a bridging camp on the shoreline of the Fleet.

The Royal Marines landing craft wing is based at Poole and exercises take place within Poole Harbour, although Studland Bay, Lulworth Cove, Worbarrow Bay and Portland Harbour may also be used. The main impact of these activities is safety issues around the use of fast boats within busy waters.

Offshore there are naval exercise areas although this has substantially decreased since the closure of the Portland naval base and relocation of the Navy's sea training unit. Surface use by warships is now much reduced and takes place mainly off Devon and Cornwall. Submarine exercises are now also extremely rare off the Dorset Coast and the navy suggest that these can be discounted as an activity.

Some defence research also takes place at Weymouth and in Portland Harbour including noise measurement, torpedo testing and vessel demagnetisation. Portland Harbour Authority Ltd actively promotes the use of the harbour for military activity including Special Forces and Royal Navy training.

Past military activity has had a significant impact on the coast. The history of uses of hazardous materials means that possible contamination of land and sediments remains an issue. Where military activity continues the impacts are generally well understood with management arrangements in place to mitigate impacts.

Military activities need to be integrated with other activities on the coast. Likely impacts on landscape and seascape are associated with buildings, signage and structures associated with military land use, noise from ranges and watercraft and restrictions on recreational and tourist uses. The ranges are popular as an attraction when not being used for military exercises and require management. There are also issues with seabed litter from munitions and potential underwater noise is also an area of increasing interest.

The activity within the Dorset military bases remains stable and so the constraints they impose are relatively well understood. The withdrawal from Portland by the navy has had an impact on the local economy, but Portland Harbour Authority Ltd has a lead role in attracting new customers and creating jobs.

5.12. URBAN EXPANSION

Development along or adjacent to the coast is potentially detrimental and, as such, planning and development control need to be carefully monitored.

Together, Bournemouth, Poole and Christchurch form one of the south coast's major economic, educational and recreational centres and are a key driver in the south west region. With a combined population of over 400,000, the conurbation is the second largest urban area in the south west. In planning for future urban development, the current planning objective is to re-use previously developed land and buildings within the urban areas, including urban renewal, maximising densities whilst seeking high-quality design standards. This will be complemented by the provision of urban extensions closely related to local centres, including areas to the north of Christchurch, north west of Corfe Mullen, north and west of Wimborne Minster and east and south east of Ferndown.

5.13. CLIMATE CHANGE

The UK climate has varied greatly over time due to natural causes, but human activities, and in particular the emission of greenhouse gases from agriculture, industry and waste disposal, are now believed to be causing changes to the climate including an accelerated warming trend. Scientific evidence suggests that this could influence a great many physical, chemical, biological and human activities which have the potential to result in significant changes to the appearance, and therefore the character, of the landscape and seascape. Natural England, as part of the 'Adapting to Climate Change' project has looked at the likely impacts of climate change on the Dorset Downs and Cranborne Chase. They have predicted that by 2080, the area is likely to have a climate resembling that of present day Portugal[13].

This suggests that there will be increased risk of drought, flooding, soil erosion and bush fires. Coastal flooding will be an issue for some areas of the coast, which is being addressed through the Shoreline Management Plans which, in addition to traditional engineering solutions, also use natural processes as a response to sea level rise. A key to climate change mitigation will be to promote and deliver land management that locks in carbon, soaks up excessive rainwater, to prevent flooding, and connects existing wildlife sites.

Warming of the climate is also likely to result in increasing sea temperatures and acidity, together with changes in salinity, wind, waves and currents. This in turn may have important consequences for the distribution of plankton, fish larvae and fisheries stocks which in turn will affect fishing activity. With rising sea levels and increased coastal erosion intertidal areas, which are often rich in invertebrate sediment communities may be squeezed with consequences of overwintering wildfowl and waders[14].

13 *Natural England, State of the Environment in the South West*
14 *Inter- Agency Climate Change Forum – Biodiversity and Climate Change- Summary, 2010*

The Dorset coast itself is one of the best places in the world to see and interpret the major sequential changes in global climate and sea levels over a large range of geological time. However climate change may lead to changes in the erosion processes along this coast, and could result in the need for further coastal defences, in themselves a potential threat to the coast. In managing the coast in the long term, consideration needs to be given to the effects and adaption of policies to mitigate potential impacts.

5.14. SOCIO – ECONOMIC INFLUENCES

Dorset is an average sized County in terms of land area but is relatively sparsely populated, with one of the smallest populations of any County. It has a relatively low crime rate, and is one of the healthiest places to live in the United Kingdom making it an attractive destination for retirement. There are, proportionately, more elderly people and less school age children than the UK average, but the influx of people relocating to Dorset ensures a strong population growth rate, (although the majority of this is occurring in the north of the County). It is however one of the least affordable areas in the UK outside London for property purchase.

Dorset's economy is diverse with agriculture, forestry, fishing and mineral extraction playing an important role in the County's economy. Employment is largely service-sector based, with tourism representing an important proportion, but banking and insurance services also contribute significantly. A number of international and national companies are based in the Bournemouth-Poole conurbation. Unemployment is low, standing at 1.2% in 2008.

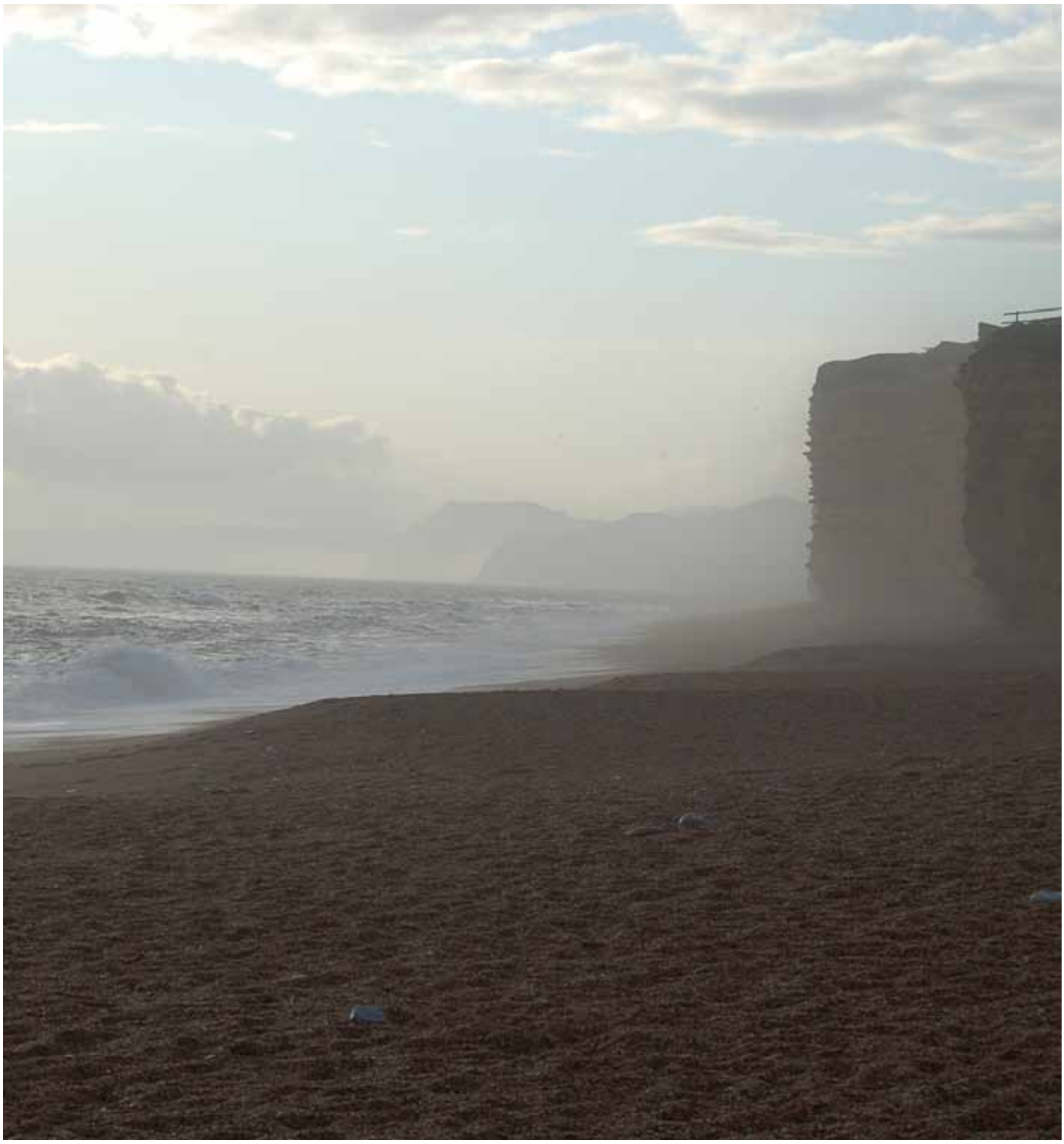
The manufacturing sector is under-represented in Dorset, compared to national levels. Manufacturing tends to be concentrated in and around the conurbations and includes mechanical, electrical, electronic and instrument engineering and the manufacture of aerospace and marine transport equipment.

Dorset County is ranked as the 25th least deprived County in England and is ranked fourth least deprived of the fifteen counties/UAs in the South West region.

The attractiveness of Dorset to visitors lies in its environment and so the sustainable management of these resources is of key importance to the County's economy.

SECTION 6

PERCEPTION OF LANDSCAPE AND SEASCAPE



Burton Beach

6.1. INTRODUCTION

It is evident that perceptions of the landscape vary, and that much depends on scale, knowledge and understanding of the landscape and the issues relating to it. Perceptions are subjective, and their formation is dependent on a vast range of cultural and physical experiences and associations. The European Landscape Convention acknowledges this important principle and recognises that all landscapes matter equally, irrespective of designation.

6.2. PERCEPTION OF LANDSCAPE AND SEASCAPE

Protected areas and other non-designated landscapes that are particularly well known for their strength of character and distinctive identity, have the ability to evoke strong images in the national consciousness. In some cases the perceptions and images evoked by these areas are based on actual experience of the landscape and seascape and their interrelationship. Factors that can contribute include the weather, noise and smell, naturalness, remoteness, and feelings of safety as well scenic quality, distinctiveness, rarity and visibility.

However, perceptions have also been shaped by non direct experiences, perhaps through literary associations or exposure in the media.

In order to introduce a degree of objectivity into the process of understanding how certain aspects of the landscape are perceived, the Campaign to Protect Rural England (CPRE) has measured the degree of tranquillity across England, based on a combination of data-sets and survey information. Dorset County is ranked 13th for tranquillity overall for all County and Unitary Authorities in England. The least tranquil areas of Dorset are, predictably, the urban areas and main arterial routes, with the largest area described as 'Least Tranquil' around the conurbation of Bournemouth and Christchurch. However, large areas of the Dorset coast are considered to be 'Most Tranquil', notably the coastline of Lyme Bay and eastwards from Weymouth, through Purbeck and to the southern side of Poole Harbour.

The CPRE has also mapped night blight, to show the level of light pollution across England. Darkness at night and starry skies are two features that make the countryside different from towns and cities. Night blight in Dorset generally corresponds to patterns of settlement; the major urban centres of Bournemouth, Poole and Weymouth are the most heavily light polluted, with the remainder of the coastal area having truly dark skies for most of its extent.

6.3. ZONE OF THEORETICAL VISIBILITY (ZTV)

A Zone of Theoretical Visibility has been prepared in order to understand the visual relationship between marine areas and the land. This is illustrated on Figure 19. The ZTV has been constructed by taking a 1 kilometre grid of points across the terrestrial areas within the Study Area boundary at the actual elevation of the point. The computer programme has interpreted where the point would be visible from off shore. The darker the marine area on the plan, the more points on land are visible from that location, thus giving an impression of the visual relationship between marine areas and the coastal strip. Due to the nature of the 1 km point resolution, there are discrepancies associated with cliffs along the coastline, for example around Swanage, where the cliffs mask the viewpoints.

The visibility of the coast still plays a significant role in orientation from the sea with coastal profiles and mapped landmarks and daymarks being shown on Admiralty charts, many of which also appear on historic charts. These are still used extensively by boat users. They are also significant landmarks for coastal users including walkers.

SECTION 7

LANDSCAPE / SEASCAPE CHARACTER TYPES

Chesil Beach

7.1. INTRODUCTION

This chapter describes each of the 12 Landscape (LCT) and 11 Seascape (SCT) Character Types. For each type the Key Characteristics are presented together with an overview of Physical Influences, Cultural Influences and Aesthetic and Perceptual Qualities. In addition the key Forces for Change acting on, or which potentially could act on, the Landscape or Seascape are described, together with proposed strategies to manage change, based upon the definitions recommended in the European Landscape Convention. The Convention is very wide in scope and covers *'natural, rural, urban and peri-urban areas, which include land, inland water and marine areas.'* The Convention recommends that landscape policies should aim to '**protect, manage** or **plan**.'

This assessment adopts these terms and the definitions are described below:

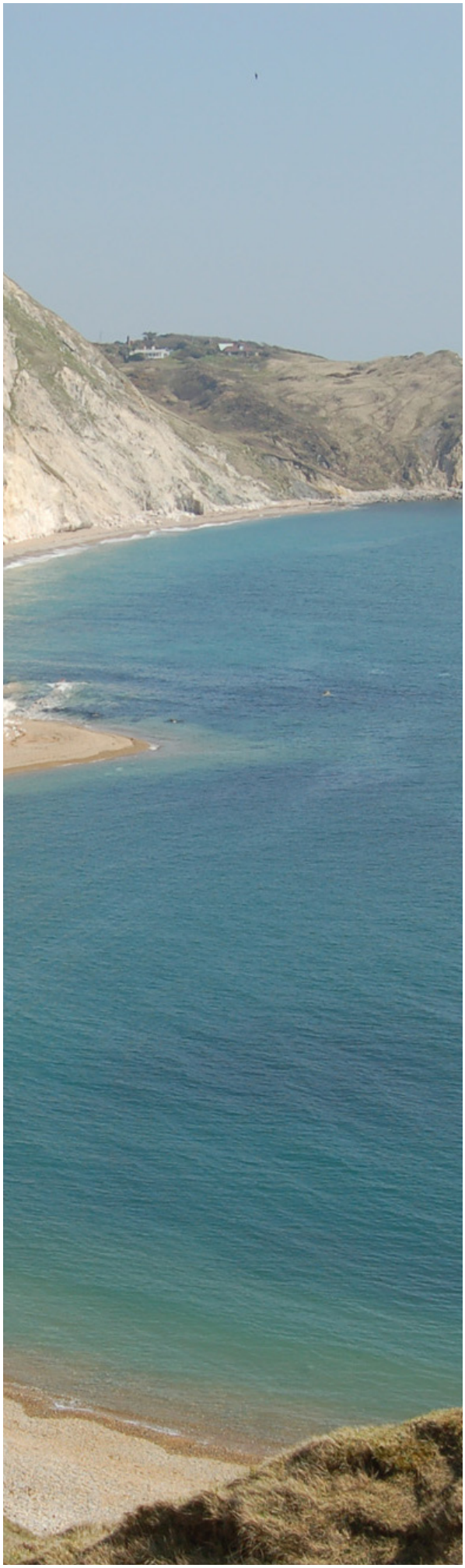
Landscape protection means: 'action to conserve and maintain the significant or characteristic features of a landscape, justified by the landscape's heritage value derived from its natural configuration and/or human activity';

Landscape management means: 'action from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes';

Landscape planning means: 'strong forward looking action to enhance, restore or create landscape'.

The terrestrial character types and key characteristics are derived from the Dorset County Council Landscape Character Assessment, with some additional information provided from observations in the field and consultation responses on aesthetic and perceptual qualities and Forces for Change. Full descriptions can be obtained from the Dorset County Council Landscape Character Assessment. LCT1k Natural Harbour and LCT1l Saline Lagoon are derived from the Dorset County Landscape Character Assessment where they are categorised together as Harbour/Wetland /Lagoon. This report has separated these out into two different types but based upon the appropriate key characteristics identified within the County Assessment.

The coastal and marine character types are new types and are fully described, based upon the baseline studies, fieldwork and consultation.



THE FOLLOWING CHARACTER TYPES HAVE BEEN IDENTIFIED:

GROUP 1: TERRESTRIAL

1a Wooded Hills
1b: Undulating River Valley
1c: Clay Valley
1d: Coastal Grassland
1e: Ridge and Vale
1f: Limestone Peninsula
1g: Chalk Ridge
1h: Rolling Wooded Pasture
1i: Limestone Plateau
1j: Lowland Heathland
1k: Natural Harbour
1l: Saline Lagoon

GROUP 2: COASTAL

2a: Sandy Beaches
2b: Shingle Beaches and Spits
2c: Slumped Cliffs
2d: Hard Rock Cliffs
2e: Intertidal Rock Ledges

GROUP 3: MARINE

3a: Man-made Harbour
3b: Coastal Waters
3c: Active Coastal Waters
3d: Inshore Waters
3e: Deep Water Offshore Fishing
3f: Deep Water Offshore Shipping

GROUP 1: TERRESTRIAL

Golden Cap

LCT 1A:
WOODED HILLS

North Chideock Area

KEY CHARACTERISTICS

- Very varied and undulating pastoral farmland scenery with broad rolling hills, steep greensand ridges, some steep incised valleys and a dramatic coastline;
- Wooded valley side slopes interspersed within a patchwork of fields and hedges which become more irregular and smaller scale on steeper land;
- Distinctive steep greensand summits with heathland vegetation cover;
- Many of the summits are key local landmarks;
- Distinctive and popular coastal landscape of headlands, eroding cliffs and undercliffs, landslips and small beaches;
- Narrow twisting hedge-lined lanes; and
- Many scattered farmsteads and small villages.

AESTHETIC AND PERCEPTUAL QUALITIES

The Wooded Hills landscape type, located adjacent to the Dorset Coast in the vicinity of Lyme Regis, is a large scale landscape, with well contained valleys enclosed by a landform of broad rolling hills. Despite the overall sense of enclosure, occasional views towards the sea and the Coastal Waters are possible, with views further inland towards adjacent landscape character types from more elevated hilltops.

The regular pattern of fields enclosed by a network of hedgerows and large hedgerow trees creates a strong landscape character with the pattern further emphasised by the landform of the Wooded Hills. The predominance of pastures results in a simple, smoothly textured landscape of muted colours. This also creates a unified scene further enhanced through the use of local stone in built elements. Whilst the limited texture of scattered hedgerow trees and woodland blocks contribute points of interest, the horizon remains generally smooth, with the main distinctive landmarks being woodland clumps located on hilltops.

Overall a sense of openness prevails, in particular from more elevated areas, though in the valley bottoms a sense of enclosure is likely to be evident. Hilltops also retain a sense of remoteness, whilst the valley bottoms appear busier in character due to the clustering of settlements in these sheltered locations. The rolling landform acts as a frame to views from within the Wooded Hills, though views are more open along the coastline where the Wooded Hills meet the adjacent coastal types. In these locations, and from landmarks such as Golden Cap, views can stretch as far as Portland and far out to sea.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

The infill and expansion of villages and towns, together with the expansion of farm clusters could potentially affect the pattern and character of rural settlements. Development on the edges of villages and towns, if not addressed sensitively, could alter the perceived rural character by creating visual intrusion that could result in the loss of landscape features and urbanisation. This could also impact on views from the coastal seascape types.

Shaping the Future Landscape

The aim should be to **plan** any new development and ensure that the design and scale is appropriate to **protect** the distinctive character of the landscape and its settlement pattern of nucleated and linear villages and market and coastal towns. Architectural solutions that take inspiration from local distinctiveness and character, whilst utilising eco-friendly and high quality design, should be encouraged. The appropriate layout of developments, so that external spaces are of sufficient size to include large scale vegetation that will serve to enhance the landscape and visual setting of the buildings should also be encouraged. Where appropriate, new tree and hedgerow planting should also be employed to help to integrate development.

Any siting of new built development should take account of its visibility from the adjacent Coastal Waters seascape type.

INFRASTRUCTURE

Forces for Change

Although major infrastructure is generally limited, with the main arterial route being the A35, any further development of pylon and power lines and road improvements may influence landscape character. Such infrastructure development could create visual landmarks in a landscape that currently has open skylines, with prominent hills and isolated hilltop woodlands providing the main points of visual interest, and could influence the relatively quiet and rural character.

Small scale road improvements, such a signage, localised widening, traffic calming or fencing, which on their own may not be significant, may have a cumulative impact on the rural landscape character.

Shaping the Future Landscape

Changes brought about by any new infrastructure should be **managed** by ensuring that it is sited away from visually prominent locations, including those areas with intervisibility with coastal waters, and restricting the number to avoid clutter and impacts on open views. Where possible the undergrounding of small power lines in sensitive locations, such as along the coast, should be encouraged and redundant infrastructure removed.

Small scale road improvements should be **managed** to take account of potential cumulative effects on the landscape context and local distinctiveness, considering the landscape setting and avoiding the urbanising or suburbanising effects on the rural road highway environment.

AGRICULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

Agricultural intensification is resulting in the loss or damage of many typical landscape features, including traditional patterns of field boundaries and assarts, and the loss of grasslands and heathlands. This contributes to a more homogenous landscape, with the effect particularly evident on steeper landform where irregular and smaller fields traditionally dominated before they gave way to the mosaic of heathland vegetation on the greensand summits, and where agricultural improvements are now making farming of this landscape possible. Changes in farming practices and the increased establishment of arable fields also have the potential to alter the strong pastoral character of the Wooded Hills.

Shaping the Future Landscape

The aim should be to **manage** the existing rural landscape features and land use which are characteristic, and **plan** to enhance and restore those features which have been lost or are under threat. In particular, the restoration of hedgerows should be given priority to strengthen the field pattern and enhance linkages between woodlands. An increase in grassland reversion could also be encouraged, increasing the occurrence of semi natural habitats and creating a more mixed pattern of land use, in particular on the upper slopes of the hills.

FORESTRY AND WOODLAND

Forces for Change

Woodland is a significant component of this landscape type, and new woodland would be generally appropriate, increasing the overall woodland cover within the County. However, woodlands are currently located to avoid steeper landform, concentrating largely on valley sides and adjacent to streams. Any new woodland planting should ideally be consistent in its locational characteristics, avoiding blanket planting over hill tops and interrupting the smooth profile of the broad Wooded Hills and sense of openness from elevated landform. Change in woodland species and composition may also become an increasing issue as climates continue to change, with implications for traditional woodland species characteristic of the Wooded Hills.

Shaping the Future Landscape

The aim should be to **plan** new woodland in the most suitable locations and to be at a scale characteristic in the type. This may include sites in and around settlements, where woodland could help to integrate new development into the landscape, and along sloping valley sides and streams, reinforcing the intimate character of valley bottoms.

Existing trees and woodlands should be **managed** to enhance biodiversity value and a diverse age structure with new planting as necessary and to create woodland edge habitat. In both managing existing woodlands and through the development of new areas of tree cover, careful consideration will need to be given to species composition, ensuring species reflect those that are characteristic of the type. However, as climate continues to change, such species mixes should be monitored to ensure continued suitability.

TOURISM AND RECREATION

Forces for Change

The Wooded Hills, in particular in coastal areas, continue to be a popular destination for tourists, for example around the areas such as Charmouth and Lyme Regis and the headlands of Golden Cap and Thorncombe Beacon. As such, there is increased pressure for associated tourist developments, including caravan and camping sites, which in the past have been located in visually prominent areas to take advantage of coastal views. The conversion of traditional farm buildings into holiday lets, 'domesticating' the appearance of former working buildings could also have a visual impact on this LCT. During warmer months, in particular, those areas adjacent to the coast are heavily used, routinely changing the landscape character across many areas, transforming a simple, natural landscape into a busy environment, with pressure on both the roads network and recreational routes within the area.

Shaping the Future Landscape

Change associated with tourism and recreation should be **planned** and **managed** to limit the long term impacts of human activity. Management plans should drawn up for the busiest areas, where activities can be focussed, helping to conserve the natural environment in other areas and **protect** landscape character.

New development should be **planned** in areas where it is least visually intrusive and damaging to landscape character and the natural environment. Access pressures and the loss of natural habitat should also be **managed** through the use of management plans to ensure those areas most sensitive to pressure are avoided.

LCT 1B:
UNDULATING RIVER VALLEY

Pymore Area, North of Bridport

KEY CHARACTERISTICS

- Meandering flat river floodplains with rolling adjacent hills;
- Patchwork of small fields on the valley floor and a mix of arable and pasture elsewhere with trimmed hedgerows;
- Occasional woods along the valley sides;
- Historic bridging points;
- Extensive grazing marsh and reedbeds towards the coast;
- Scattered clustered settlements with golden limestone and thatch;
- Occasional orchards;
- Ribbons of wet woods and tree groups along watercourses;
- Important parkland landscapes; and
- Open views along valley bottoms.

AESTHETIC AND PERCEPTUAL QUALITIES

The open valley bottoms of the Undulating River Valley contrast with the undulating valley sides, creating a landscape with a diverse character and contrasting sense of openness and enclosure. Whilst there is a largely open character along the meandering tree lined river courses, the rising landform creates a more intimate, human scale landscape fringing the adjacent undulating landform. Much of the river valley landscape retains a diverse patchwork of small, irregular pastoral fields, with a predominance of permanent grazing land, again contrasting to the mixed land use which predominates elsewhere in the landscape character type. Occasionally, in this wider landscape, the increased occurrence of large scale agricultural buildings and areas of overgrown hedgerows creates a less distinctive landscape with a weaker pattern. Overall, the landscape combines natural, built and managed features to create a busy character.

Urban influences are often evident within the landscape character type, including lines of pylons and degraded field boundaries with grown-out hedgerows often evident only as lines of trees. The settlement pattern consists of a number of market towns focused around the course of rivers, with nucleated villages, often using local stone reinforcing landscape character.

The open character and accessibility to the rivers combine to make these areas popular for walking and informal recreation. Coastal recreation opportunities are limited, due to the restricted relationship with the coast, occurring only where the river meets the sea. This also limits views along the coast, although views are possible around West Bay where the landscape character type lies adjacent to the Shingle Beach.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Development on the edge of settlements, if not addressed sensitively, could alter the perceived character of the landscape, in particular where it intrudes upon the intimate pattern of the valley bottoms. Larger scale agricultural buildings are particularly prominent in this otherwise, mainly rural, landscape.

Shaping the Future Landscape

The aim should be to **plan** any extensions to existing development or new development to **protect** the distinctive character of villages and towns within the Undulating River Valley. The existing, largely rural, character should be taken into account and visual impacts of new structures limited by ideally locating development close to existing settlement. Specific mechanisms, such as village design statements and innovative architectural design solutions, should be undertaken. The appropriate layout of developments, so that external spaces are of sufficient size to include large scale vegetation that will serve to enhance the landscape and visual setting of the buildings should also be encouraged. The planting of new trees and small copses characteristic of the type can also help to integrate development into the landscape.

INFRASTRUCTURE

Forces for Change

The upper reaches of the undulating landform of the valley slopes are visually prominent and further development of telecommunication infrastructure would potentially create additional visual landmarks and detract from rural landscape character.

Small scale road improvements, such a signage, localised widening, traffic calming or fencing, which on their own may not be significant, may also have a cumulative effect on the rural landscape character.

Shaping the Future Landscape

Changes brought about by any new infrastructure should be **managed** by ensuring it is sited away from visually prominent locations, and restricting the number to avoid clutter and impacts on open views. Where possible the undergrounding of small power lines in sensitive locations, such as along the coast, should be encouraged and redundant infrastructure removed.

Small scale road improvements should be **managed** to take account of potential cumulative effects on the landscape context and local distinctiveness, considering the landscape setting and avoiding the urbanising or suburbanising effects on the rural road highway environment.

AGRICULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

There is marked evidence of agricultural intensification, accompanied by a change, in places, to arable farming. This has resulted in the loss or damage of many typical landscape features, including small irregular pastoral fields and riverside pastures, which would have traditionally defined river channels and distinguished them from surrounding farmland. Of those river pastures and meadows that remain, many have been agriculturally improved by herbicides and fertilisers, reducing species diversity and visual interest. Many hedgerows have also been managed effectively, or in some instances removed, breaking down the distinctive patchwork pattern of fields.

Shaping the Future Landscape

The aim should be to **manage** any changes to existing river valley features which are characteristic of the type, and **plan** to enhance those features which are under threat. In particular, the restoration of meadows should be given priority, strengthening the character of river channels and providing a diverse range of habitats. Existing hedgerows should be **managed** and **protected**, in particular where historic field boundaries are diminishing, and new hedgerows planted, where sections have been lost or replaced with post and wire or post and rail fences, in particular along the valley floors. Species diversity should be encouraged within newly established hedgerows to improve overall connectivity and habitat corridors.

Flood risk alleviation measures should be **planned** to ensure that they are sensitive to the character of the LCT and, where possible, natural methods should be used in preference to engineered solutions.

FORESTRY AND WOODLAND

Forces for Change

Small woodland blocks, remnants of wet woodland and tree groupings are common along the river valleys, contributing to the overall perception of a fairly well treed landscape. Small irregular copses are also evident along valley sides. Woodland planting does, however, have the potential to be poorly managed, and through agricultural intensification, small woodland blocks are often put under pressure and overall cover could be in decline.

Shaping the Future Landscape

The existing pattern of woodland should be **managed** and the type and location of new woodland and tree planting **planned** to ensure it is at an appropriate scale within the type. Large-scale woodland planting should generally be avoided, with priority given to creating areas of wet woodland, coppice woodland and riverside trees, including phased replacement of non native poplars in open locations and small scale broadleaved woodlands on valley sides, strengthening the character of the landscape and providing a diverse range of habitats. New woodland planting should be carefully sited to ensure the distinctive pattern of the undulating valley sides and open skylines are not diminished. Small scale areas of tree planting may also be appropriate to soften the impact of built development on settlement margins.

LCT 1C:
CLAY VALLEY

Purbeck Hills southwards to coast at Kimmeridge

KEY CHARACTERISTICS

- Varied landform from broad open valley, to more sweeping valley and areas which are more secluded;
- Enclosed and defined by dramatic steep chalk and limestone escarpments and ridges;
- Patchwork of small scale pasture, irregular dense hedges and copses with larger arable fields, grassland and scrub on the steeper slopes;
- Small, nucleated and scattered villages and farmsteads;
- Distinctive church towers act as local landmarks;
- Occasional small wet woods, springs and flushes on valley floors;
- Larger scale woods on valley sides;
- Winding rural lanes with mixed boundaries from stone walls to hedge banks; and
- Distinctive coastal landmarks and features.

AESTHETIC AND PERCEPTUAL QUALITIES

A large scale agricultural landscape, defined by a strong pattern of smaller pastures and larger arable fields that unify the character type. The Clay Valley offers elevated, panoramic views from more open and exposed upper slopes and in some instances these stretch to the coast and beyond. In other areas, the landscape character type is enclosed and defined by the dramatic chalk and limestone ridges, the landform sloping inland and becoming more intimate in places.

Colours and textures across the landscape are generally diverse, though views become more muted where pastoral land predominates. This diverse landscape, combining a varied undulating landform, strong field patterns and small scattered settlements has a smooth, curved profile, with occasional rough textured elements such as small woodlands and hedgerow and streamside trees creating points of interest. Maintained hedgerows defining field boundaries also help to create the impression of a well managed agricultural landscape, with isolated built features such as buildings and roads. Overall, a quiet landscape predominates, with a number of areas retaining a sense of remoteness due to lack of access. Military activities do, however, offer occasional intrusion in the form of tanks and explosions.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

There is pressure for residential development on the edge of villages and some of the larger settlements, potentially eroding architectural and historic character unless addressed sensitively.

Shaping the Future Landscape

The aim should be to **manage** the impacts of any new development on the character of the countryside also taking account of its visual impact. Specific mechanisms include innovative architectural designs and small-scale planting of new trees, if appropriate, to help integrate new development into the landscape.

The appropriate layout of developments, so that external spaces are of sufficient size to include larger scale vegetation that will serve to enhance the landscape and visual setting of the buildings should also be encouraged.

Village expansion should be **planned** to avoid open, elevated areas where views would be interrupted, or where views are towards distinctive landmarks such as churches. Any development should be designed to carefully integrate into the existing settlements. In particular any development should take account of views from adjacent coastal waters.

INFRASTRUCTURE

Forces for Change

Major infrastructure is generally limited within the Clay Valley, with the main arterial route being the A351 and located adjacent to this the railway line to Swanage. The upgrading of further roads or considerable expansion to the railway network could influence the quiet rural landscape character

Small scale road improvements, such a signage, localised widening, traffic calming or fencing, which on their own may not be significant, may also have a cumulative effect on the rural landscape character.

Shaping the Future Landscape

Any changes brought about by new infrastructure development should be **managed** to ensure they are appropriate in scale and design to the rural character of the Clay Valley.

Small scale road improvements should be **managed** to take account of potential cumulative effects on the landscape context and local distinctiveness, considering the landscape setting and avoiding the urbanising or suburbanising effects on the rural road highway environment.

AGRICULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

Whilst the rural landscape retains mixed land uses, with areas of arable and pasture, a change in the scale of fields and an increased use of arable crops could potentially have an effect upon the strong landscape pattern. There is also evidence of agricultural intensification, resulting in the loss or damage of many typical features. This includes the loss of hedgerows and hedgerow trees, stonewalls, and scrub and grassland on in the upper slopes being brought into agricultural production. There is also proliferation of new, large scale agricultural buildings, potentially reflecting the loss of small holdings and general increase in farm size.

Shaping the Future Landscape

The aim should be to **manage** any changes in agricultural practice to ensure that the structure and unity of the landscape character is **protected.** The aim should be to **manage** the existing rural landscape features and land use which are characteristic, and **plan** to enhance and restore those features which have been lost or are under threat. In particular, the restoration of hedgerows and stone walls on higher ground should be given priority, ensuring that the strong pattern is maintained and enhanced.

Any new agricultural development should be **planned** to ensure it is appropriate in terms of type, scale and location. New large scale agricultural buildings should be carefully sited, away from visually prominent locations and be located amongst existing buildings, where possible. Specific design guidance for farmsteads may be appropriate, establishing the criteria for new development.

FORESTRY AND WOODLAND

Forces for Change

Woodland cover varies across the landscape, with larger woodland blocks on valleys sides, scattered copses and occasional wet woodlands on valley floors. Whilst small-scale woodland establishment would potentially be appropriate, this should not be to the detriment of the open character of the Clay Valley.

Shaping the Future

The aim should be to **manage** existing woodland, in particular existing small broadleaved woodlands, and encourage new planting to ensure a diverse age structure and ecological diversity. Consideration should also be given to the creation of woodland edge habitats, enhancing their contribution to landscape and biodiversity character, and strengthening links with restored hedgerows and areas of scrub establishment and grassland areas. In **managing** existing woodland and **planning** for new woodland, consideration should also be given to the extension of existing wet woodlands within the valley floor.

TOURISM AND RECREATION

Forces for Change

Those edges of the Clay Valley that are particularly close to the coast continue to be popular with tourists. As such, there is growing pressure to provide tourist accommodation, in particular in the form of caravan and touring parks. This could potentially alter landscape character across a number of areas, transforming a natural farmed landscape into a busy environment and also potentially impacting on views to and from the coast.

Shaping the Future Landscape

The aim should be to **manage** the coastal landscape to limit the long term impacts of human activity. Extensions to existing caravan parks and proposals for new caravan parks should be carefully **planned** to ensure that they are appropriate in terms of scale and location and to ensure that they avoid visually prominent locations. They should also be **planned** and sited to ensure that they can be absorbed into the undulating landform and where there will be minimal visual intrusion both from viewpoints on land and within coastal waters.

LCT 1 D:
COASTAL GRASSLAND

West Bexington

KEY CHARACTERISTICS

- Exposed, largely treeless and windswept landscape with open, dramatic views along the coast;
- Sloping and gently undulating rough coastal limestone grassland and scrub;
- Enclosed and defined by the chalk escarpment to the north;
- Patchwork of regular fields and low and stunted hedges;
- Unsettled with the occasional farmstead and some remaining strip fields;
- Steeper slopes closer to the escarpment with grazed pastures and scrub; and
- Lower slopes nearer the beach contain reeds and grazing marsh.

AESTHETIC AND PERCEPTUAL QUALITIES

The windswept landscape of the Coastal Grassland is exposed to forces from the sea and slopes gently to form the lower slopes of the Clay Valley and elevated landform of the Chalk Escarpment. Despite the broken and sometimes fragmented pattern of the landscape, often the result of scrubby hedgerows and post and wire fences, the Coastal Grasslands have a strong sense of place with a number of important landscape features including reedbeds located to the rear of Chesil Beach, over which there are sweeping panoramic views. The close association and interaction between Coastal Grasslands, Saline Lagoons, Shingle Beaches and open views of Coastal Waters is rare within the County.

Lack of settlement contributes further to the sense of remoteness, together with scrub encroachment along field boundaries and steeper pastures. Elsewhere, a medium scale landscape of pastoral fields predominates with pockets of arable land, contributing to a colourful and interesting character, which in places can become quite complex.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Whilst there is limited settlement within the Coastal Grasslands, largely restricted to the linear settlement of West Bexington and scattered farmsteads, future piecemeal development along the limited minor roads in the area, unless carefully sited, could potentially reduce the sense of remoteness and create visual intrusion. This may also be highly visible from adjacent coastal waters.

Shaping the Future Landscape

The aim should be to **protect** the distinctive character of the landscape. Any new development should be carefully **planned** and be restricted in terms of scale and extent to ensure a remote character is retained. Where isolated development is proposed, innovative architectural ideas that minimise impact on the landscape should be encouraged. Such development should be sited away from locations where there is strong intervisibility with coastal waters.

INFRASTRUCTURE

Forces for Change

Infrastructure within the Coastal Grassland is extremely limited with only isolated minor roads, often terminating in a dead end adjacent to the coast or slightly inland. Small scale road improvements, such a signage, localised widening, traffic calming or fencing, which on their own may not be significant, may have a cumulative effect on the rural landscape character.

Shaping the Future Landscape

Small scale road improvements should be **managed** to take account of potential cumulative effects on the landscape context and local distinctiveness, considering the landscape setting and avoiding the urbanising or suburbanising effects on the rural road highway environment.

AGRICULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

There is marked evidence of agricultural intensification with the amalgamation of fields, combined with a change towards arable production. Poor management of hedgerows is also evident with scrub encroachment occurring along field boundaries and the replacement of hedgerows, in places, with post and wire fences, changing the landscape pattern. Scrub encroachment is also evident within a number of fields.

With changes to farming practices, there is also likely to be increased pressure for new, large scale agricultural buildings, increasing overall development within the Coastal Grassland and potential visual intrusion. Agricultural diversification, resulting in the conversion of agricultural buildings to residential or industrial use and the establishment of secondary enterprises, could also change the character of this LCT. In some instances, a decline in the state of repair of existing farm buildings and barns is also evident.

Located on the edge of the landscape type are areas of reed bed and grazing marsh, in places designated as local nature reserves. The on-going management of these areas is essential to ensure their continued habitat and ecological benefits. Watercourses and associated wildlife also requires protection from soil erosion and the effects of diffuse pollution.

Shaping the Future Hardscape

The aim should be to **manage** any changes in agricultural practice to ensure that the structure and unity of the landscape character is **protected**. Consideration should be given to **planning** to restore or enhance those characteristic features which have been lost or are under threat. In particular, hedgerows should be **managed** and restored, where appropriate, to ensure a balance is maintained between hedgerows and post and wire fences, which are evident in more open areas. The distinctive patterns of land use should be **protected**, ensuring that conversion from pasture to arable land does not become prevalent. Scrub encroachment should be **managed** by low impact grazing and the reed beds and grazing marshes should also continue to be **managed** for the enhancement of nature conservation value and benefits.

Any development of new agricultural buildings should be **planned** to ensure it is carefully sited away from more visually prominent locations and preferably within existing building groups, where possible. Specific design guidance for farmsteads may be appropriate, establishing the criteria for agricultural development. Buildings should retain local distinctiveness to ensure their continued positive contribution to landscape character.

TOURISM AND RECREATION

Forces for Change

Whilst impacts from recreational based activities are focused in a number of limited areas, the location of long distance routes to the north east of the Coastal Grasslands and Chesil Beach forming the south western boundary, are likely to increase tourist pressures. Rural roads provide access to beach side car parks, most notably at West Bexington, and may be under pressure for improvement which may result in urbanising influences.

Shaping the Future Hardscape

The LCT should be **managed** to limit long term impacts of tourism activity and should aim to achieve a balance between visitor numbers and the need to **protect** the natural environment and important landscape features of the Coastal Grasslands. Due to the lack of woodland and tree cover and the orientation of the landform, which slopes towards the coast and marine areas, any development would need to be very carefully planned to ensure that it is at an appropriate scale and can be absorbed into the open landscape.

LCT 1E:
RIDGE AND VALE

Abbotsbury Area near Warre Wood

KEY CHARACTERISTICS

- Broad evenly spaced ridges and valleys which follow a west-east alignment;
- Enclosed and defined by the dramatic chalk escarpment to the north;
- Mixed farmed area with a patchwork of geometric fields divided by straight hedges;
- Larger fields in the valleys and on the open ridges;
- Open views along the coast from the smooth, broad and hog-back shaped ridges;
- Distinctive settlement pattern along the valley floor and at the foot of the escarpment;
- Smaller scale and secluded landscape around Osmington; and
- The edges of the Weymouth conurbation create a negative impact on landscape character.

AESTHETIC AND PERCEPTUAL QUALITIES

The Ridge and Vale landscape character type is a medium scale landscape with a strong pattern of relatively regular shaped fields of mixed pastoral and arable use, emphasised by the landform of limestone ridges and undulating clay vales and enclosure of the fields with mature hedgerow boundaries. Consistent land use creates a simple and unified character, which can be perceived as a monochrome landscape, though colour, interest and texture are added during warmer months when woodlands and treed boundaries are in leaf.

Forming a backdrop to the area and enclosing the landscape type is the Limestone Escarpment, whilst on the seaward side lie Chesil Beach and the Fleet Lagoon, with the urban area of Weymouth sprawling to the south and south east. More elevated areas of the Ridge and Vale provide an open landscape with panoramic views towards the adjacent landscape types and over coastal areas, both to the west and east of Portland and out to sea. Landmarks on Portland such as the lighthouses at Portland Bill and the prominent chalk cliffs around Purbeck are also evident in some coastal views.

Despite the proximity of large urban areas, the landscape can appear vacant in places where villages nestle along valley floors and lower slopes. Views towards settlement are interspersed with woodland blocks, whilst prominent lines of pylons cross the landscape heading towards urban areas.

Abbotsbury Swannery

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

The majority of new built development is located on the edges of larger settlements such as Weymouth, some of which is encroaching into the more rural areas. In places, new development has resulted in the merging of larger urban areas with smaller historic settlements that were once located a considerable distance from the conurbations. Development on the urban fringe, including sub stations and golf courses is also evident. Elsewhere, smaller linear and nucleated settlements are often located along the valley floors and lower slopes.

Shaping the Future Landscape

The aim should be to **protect** the distinctive character of the small towns and villages within the Ridge and Vale LCT, with careful **planning** of any extensions to existing development. Specific mechanisms may include village design statements and innovative architectural design solutions. The appropriate layout of developments, so that external spaces are of sufficient size to include larger scale vegetation that will serve to enhance the landscape and visual setting of the buildings should also be encouraged.

Where development is associated with the edges of urban areas, the aim should be to **protect** remnants of rural Ridge and Vale. Any new development should be **planned** and utilise brown field sites and infill where appropriate. In siting development intervisibility with coastal waters should be a considered.

INFRASTRUCTURE

Forces for Change

A number of main transport routes are evident crossing the area and connecting the wider landscape with urban areas, including A-roads and the railway line. Localised road improvements could occur across the type as demand for improved connections increases. This would potentially have a further urbanising effect and bring a degree of standardisation to the landscape.

Small scale road improvements, such a signage, localised widening, traffic calming or fencing, which on their own may not be significant, may also have a cumulative effect on the rural landscape character. Prominent lines of pylons also cross the landscape. These are often visually intrusive in a landscape that is open, particularly where sited on more elevated land.

Shaping the Future Landscape

The aim should be to **manage** road improvements, maintaining the existing character of the rural road network, whilst having regard to user and safety requirements. Any road improvements should be carefully **planned** and designed to provide positive environmental and landscape enhancements and strengthen prevailing character. This may include planting grassland, hedgerows and trees along verges to enhance character and increase the occurrence of semi-natural habitats.

Small scale road improvements should be **managed** taking account of potential cumulative effects on the landscape context and local distinctiveness, considering the landscape setting and avoiding the urbanising or suburbanising effects of the rural road highway environment.

The LCT character should be **protected** by siting infrastructure away from visually prominent locations, and restricting the number to avoid clutter and impact on open views. Where possible the undergrounding of small power lines in sensitive locations, such as along the coast or in areas where there is intervisibility with coastal waters, should be encouraged and redundant infrastructure removed.

AGRICULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

There is marked evidence of agricultural intensification which has resulted in the loss or damage of a number of features, including the decline of hedgerows and loss or decline of stone walls. Although overall the condition of hedgerows appears to be relatively good, there is evidence of poor management in some areas, with a number becoming gappy and others being replaced by post and wire fences. Agricultural diversification, resulting in the conversion of agricultural buildings to residential or industrial use and the establishment of secondary enterprises, could also change the character of this LCT.

Shaping the Future Landscape

The aim should be to manage any changes in agricultural practice to ensure that the structure and unity of the landscape character is protected. Consideration should be given to planning to restore or enhance those characteristic features which have been lost or are under threat. In particular, the restoration of hedgerows and, in coastal areas, the dry stone walls, should be given priority, in order to strengthen landscape character.

FORESTRY AND WOODLAND

Forces for Change

Woodland cover across the landscape type varies, with scattered woodland blocks generally focused away from the larger urban areas. These woodlands, often geometric in shape and located on the sloping landform provide important landmarks within the landscape. Whilst woodland is characteristic of the landscape, a balance needs to be maintained between open agricultural areas, allowing panoramic views, and the location of new woodland planting. Opportunities are likely to exist to use new tree planting and small scale woodland planting to assist with screening of any new residential development on the edge of urban areas.

Shaping the Future Landscape

The aim should be to **manage** existing trees and woodland and **plan** new planting to provide a varied age structure and create woodland edge habitats to enhance landscape character and biodiversity. New woodland should also be **planned** to help minimise the visual effects of potential new development and to assist in softening the existing urban edge.

LCT 1F:
LIMESTONE PENINSULA

Eastern coast of Portland looking northwards towards Lulworth

KEY CHARACTERISTICS

- A dramatic and distinctive wedge shaped limestone peninsula at the end of Chesil Beach with prominent cliffs;
- A unique coastal landmark with sweeping views along the coast;
- The pale grey Portland limestone rock dominates the natural and built landscape;
- Exposed, windswept and rocky landscape;
- Quarrying and military activity has and continues to significantly impact on the islands character;
- Little tree cover and a historic pattern of small fields separated by low stonewalls;
- A disjoined, untidy and neglected feel;
- An open skyline dominated by manmade structures and features;
- Many key nature conservation sites of importance; and
- Portland Bill and the lighthouse are key landscape features.

AESTHETIC AND PERCEPTUAL QUALITIES

The Limestone Peninsula is a prominent feature which forms the Isle of Portland, well known locally as well as further afield. Forming a distinctive wedge shape with more elevated landform to the north, the peninsula is visible from many areas of the Dorset coast, higher points further inland and also from large areas of the sea, from which it is an important landfall. Views from the Peninsula extend to the west and east along the coast and out to sea, with prominent landmarks such as the vertical hard cliffs being evident within views.

The complex character of the Limestone Peninsula, including quarries, scrubland, cliffs, military and urban areas, all combine to create a diverse and often fragmented character. Extensive quarrying has also left many scars, with numerous quarries now redundant and a sense of neglect prevailing across the area.

The peninsula extends from mainland, creating a sense of exposure and remoteness, despite significant settlement on the peninsula and many man-made features such as quarries. The coastal edges have a more natural, often dramatic character, with limestone grasslands and cliffs of international importance that are often of high scenic quality. However, remnant military activity on the lower slopes can detract from this character. The location of the Peninsula also affords wide open panoramic views across the Dorset coast and sea beyond. The use of local limestone in many of the buildings, as well its visibility on quarry and cliff faces can create a landscape muted in colour. However, the stone provides a unifying element creating a strong sense of place and local vernacular.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Four main areas of settlement are located on the Isle of Portland, Fortuneswell, Easton, Weston and Southwell. All have a varying character, despite the use of Portland stone in many older properties. Whilst many old buildings have used the stone to implement high quality architectural designs, many new buildings can be of poorer quality with limited innovative design solutions. Although quarries assist in limiting the merging of developments, further measures should be taken to ensure that limited agricultural land that does exist does not become fully developed.

Military activity has had a significant influence upon the Limestone Peninsula and many sites, now derelict, are a reminder of the significance of the Isle and its strategic location and importance as a safe harbour area. However, the sites require management to ensure they are retained to promote the industrial heritage of Portland.

Shaping the Future Landscape

Any new development should be **planned** to take account of the visual impact on the settlement and from adjacent coastal waters, and on the existing character and scale of the settlement. Where possible, any proposed development should be **planned** to make use of previously developed land, using innovative design solutions and taking inspiration from local distinctiveness and character. The use of trees to reduce visual intrusion of development should be avoided, except where other vegetation exists, as tree cover is limited on the Peninsula due to maritime exposure. Any development should also ensure that existing open views are retained.

The aim should be to **protect** the industrial heritage of Portland, and to conserve and retain features of interest.

MINERALS AND WASTE

Forces for Change

The extraction of limestone has had a significant influence upon the character of the peninsula. Both existing and redundant quarries and their associated infrastructure are littered across the Peninsula, yet despite the intrusive nature of mineral extraction, it underpins one of the main characteristics of Portland and provides a sense of place for the whole island.

Shaping the Future Landscape

The aim should be to **manage** quarries and stone extraction from the Isle of Portland to achieve a balance between commercial and nature conservation requirements, including the **protection** of habitats and geological structures that are nationally important, as well as considering recreational and education opportunities. Plans for the restoration and after-use of operational sites, should include the creation of calcareous grasslands that will enhance habitat diversity and nature conservation value.

Fortuneswell and Chesil Beach on west side of Portland

AGRICULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

The encroachment of urban areas and associated urban fringe land uses, including paddocks, has had a marked effect on the extent and quality of grassland areas on the Limestone Peninsula. Despite this, there are a number of important limestone grassland habitats and some evidence of historic field patterns remain.

Shaping the Future

The aim should be to **protect** existing features which are characteristic of the type and to **plan** to restore or enhance those characteristic features which have been lost or are under threat.

Non-indigenous scrub should be **managed** and controlled and native scrub species encouraged to enhance biodiversity. Historic field patterns should be **protected,** where possible, to prevent further loss.

LCT 1G:
CHALK RIDGE

View towards Branscombe Hill Chalk Ridge

KEY CHARACTERISTICS

- Steep, distinctive and bold ridge and scarp slope on the edges of the chalk landscapes;
- Dramatic visual edge enclosing and providing a backdrop to the surrounding countryside;
- Marked variation in character and landform along the scarp;
- Undeveloped and open character with panoramic views;
- Distinctive and bold pattern of land cover including hanging mixed woods and patches of chalk grassland;
- Woodlands are often visually prominent landmarks;
- Settlements concentrated along the foot of the scarp;
- Narrow twisting lanes often with high hedgebanks; and
- Many ancient and distinctive hillforts on escarpment highpoints such as Eggardon and Hod/Hambledon Hills.

AESTHETIC AND PERCEPTUAL QUALITIES

The large scale landscape of the Chalk Ridge, which extends as far as the coast in places, where it is expressed as chalk cliffs, affords open, expansive and panoramic views of the county due to its elevated position and open character. Where the ridge meets the coast, in particular, wide panoramic views are possible along the coast and towards the distinctive Isle of Portland. The strong geometry of the Ridge is influenced by the uniform pattern of the pastoral landscape which is interspersed with arable land and woodland blocks. It combines regular shaped fields on the lower slopes, often small in scale, giving way to a larger scale landscape on the upper slopes towards open downland areas. Scrubby areas, in particular on upper slopes, together with woodland blocks and treed boundaries provide texture in what is a predominantly smooth landscape. Woodland blocks also provide prominent landmarks along the ridgeline.

A colourful landscape prevails, which is mainly due to the mix of land uses, and these combine to create a uniform character with a strong sense of place. Contrasting dramatically with the vegetated areas are the stark, white vertical chalk cliffs found along the coast.
Despite the Chalk Ridge containing numerous managed elements, a sense of remoteness and naturalness is evident due to extremely limited settlement, confined mainly to foot of the ridge.

Access is also limited, most notably around the Lulworth Ranges, where the military firing ranges are closed to access for much of the year.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Development is generally limited within this type, with settlement focused mainly on the lower slopes, beyond which are isolated scattered farmsteads. Due to the nature of the landform and present uses, further development is generally unlikely. There may be pressure from expansion of military uses across the Ridge. Where military structures are required, they should aim to avoid more visually prominent areas.

Shaping the Future Landscape

The aim should be to **plan** any new military structures, siting them to avoid the most visually prominent areas, especially where there is strong intervisibility with coastal waters. Locating them adjacent to existing vertical elements, for example, woodland blocks may assist in ensuring that the openness of the Chalk Ridge type is protected.

INFRASTRUCTURE

Forces for Change

The Chalk Ridge is a visually prominent type, visible from a wide area and further development of telecommunication infrastructure would potentially create further landmarks, adding visual clutter and interrupting characteristic open views.

Shaping the Future Landscape

Manage changes brought about by any new infrastructure by ensuring it is sited away from visually prominent locations, and restricting the number to avoid clutter and impacts on open views. Where possible the undergrounding of small power lines in sensitive locations, such as those that are highly visible from a wide area, should be encouraged and redundant infrastructure removed.

AGRICULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

Changes to grazing patterns on the Chalk Ridge has the potential to have a marked influence on landscape character, with scrub encroachment potentially becoming an increasing issue. Whilst scrub provides a valuable habitat, the extent needs to be monitored to ensure it does not impact on other habitat types, for example, by reducing areas of calcareous grassland.

Shaping the Future Landscape

The aim should be to **manage** the existing pattern of scrub and grassland to ensure a balance between the extents of scrubland habitat, grassland and agricultural land. Non-indigenous scrub should be **managed** and controlled and native scrub encouraged, where appropriate to enhance biodiversity. Grassland should also be **managed** to re-create, link and restore areas. Intensive management techniques should be avoided.

FORESTRY AND WOODLAND

Forces for Change

Whilst woodland blocks provide prominent visual landmarks along the ridge line, further woodland planting should generally not be encouraged to ensure a balance is retained between the extent of woodland cover and open grassland and farmed areas.

Shaping the Future Landscape

Existing woodland should be **managed** and planting and inter-planting encouraged to ensure a diverse age range and ecological structure. The creation of woodland edge habitats should be **planned** to enhance landscape character and biodiversity, whilst ensuring that a sense of openness is retained on the ridge top.

TOURISM AND RECREATION

Forces for Change

Due to the prominent, elevated landform of the Chalk Ridge, it attracts many visitors taking advantage of the viewpoints with wide, panoramic views over the county and towards the coast. The location of numerous rights of way, including Long Distance Paths can result in the erosion of areas, in particular steeper slopes where footpaths can leave a prominent scar on the landscape, detracting from the natural, unspoilt character. These, together with the presence of many areas of historic interest, such as barrows and tumuli, put increasing pressure on the landscape to accommodate a significant number of visitors. Measures should be sought to manage the landscape to ensure that any tourist developments such as caravan parks are designed and sited to avoid highly visible locations or sensitive habitats.

Shaping the Future Landscape

The aim should be to **manage** tourism and recreation pressures on the Chalk Ridge to limit the long term impacts of human activity. Management Plans should be drawn up for the footpath network, with regular maintenance reviews to ensure that erosion is minimised and restored, where necessary. The use of vantage points and associated parking and picnic facilities should also be **managed** to limit size and visual intrusion within the landscape. Limiting parking may also help to control the level of access. Any associated development should be **planned** to avoid elevated and highly visible locations.

View towards Chalk Ridge at Corfe Castle

LCT 1H:
ROLLING WOODED PASTURE

Rempstone looking northwards towards Poole Harbour

KEY CHARACTERISTICS

- Undulating, low and rolling hills with an irregular patchwork of pasture, woods and hedgerows;
- Small scale, intimate and enclosed mosaic landscape;
- Situated between the chalk and the heathland landscapes;
- Dense small woods of oak, ash and birch and hazel coppice;
- Mainly a pastoral landscape with some arable on flatter land;
- Many small villages linked by winding hedge lined lanes;
- Small patches of heath and/or unimproved grassland; and
- Views limited by dense hedgerows and many small woods and copses.

AESTHETIC AND PERCEPTUAL QUALITIES

Located to the base of the Chalk Ridge which provides a prominent backdrop and sense of enclosure to the Rolling Wooded Pasture, the landscape then gives way to the Lowland Heathland around Poole Harbour. The relationship with the coast is not immediately evident, with only a narrow area of the character type adjoining the coast at Studland. However, where the landscape character types lies adjacent to the Sandy Beaches Coastal Seascape Type, views along the coast are possible towards Old Harry and across the Active Coastal Waters towards the urban areas of Poole and Bournemouth.

The small to medium scale landscape has an irregular pattern, fragmented in areas due to varying land uses, scrub encroachment and regenerating woodland in field corners, but also as a result of a number of degraded field boundaries which have become gappy and replaced by post and wire fences with only lines of trees remaining.

Overall, land uses combine to create a rough textured mosaic of woodland and scrub, together with hedgerows and predominance of pastoral land with larger arable fields on flatter land. These varying elements also result in a diverse colourful landscape.

Despite the small villages and hamlets linked by a network of winding roads, in areas the landscape retains a vacant natural character with occasional man-made and managed elements. Closer to urban centres, in particular along the coast, an often degraded and cluttered landscape prevails, with the natural and vacant character diminishing.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Although settlement within the Rolling Wooded Pasture generally comprises scattered villages and hamlets, it is within close proximity to larger urban areas which can have a strong urbanising influence on the landscape type. Infill and expansion of villages, together with the expansion of farm clusters could also potentially affect the pattern and character of rural settlements. Development on the edges of villages, if not sensitively sited can be particularly damaging, creating visual intrusion and resulting in the loss of landscape features and the rural landscape.

Shaping the Future Landscape

The aim should be to **protect** the distinctive character of the landscape and settlement pattern, ensuring development is appropriate in terms of design and scale. Architectural solutions that take inspiration from local distinctiveness and character, whilst utilising eco-friendly and high quality design, should be encouraged. The appropriate layout of developments, so that external spaces are of sufficient size to include large scale vegetation that will serve to enhance the landscape and visual setting of the buildings should also be encouraged. New tree and hedgerow planting should also be employed where appropriate to minimise impact on character and help to integrate development into the landscape. Development on the edge of urban areas should be carefully **managed** to control inappropriate development and further encroachment into the character type.

INFRASTRUCTURE

Forces for Change

Infrastructure within the Rolling Wooded Pasture is relatively limited, with a predominance of minor roads criss-crossing the type. Small scale road improvements along the rural road network, such a signage, localised widening, traffic calming or fencing, which on their own may not be significant, may also have a cumulative effect on the rural character type.

Shaping the Future Landscape

Small scale road improvements should be **managed** to take account of potential cumulative effects on the landscape context and local distinctiveness, considering the landscape setting and avoiding the urbanising or suburbanising effects on the rural road highway environment.

AGRICULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

Agricultural intensification is potentially contributing to the loss or damage of many typical landscape features, including traditional irregular field patterns and the loss of heathlands. This contributes to a more homogenous landscape, with the effect particularly evident on steeper landform where irregular and smaller fields traditionally dominated before they gave way to the mosaic of heathland vegetation, and where agricultural improvements are now making farming of this landscape possible. Changes in farming practices and the increase in arable with loss of grassland also have the potential to alter the character of the landscape type. Agricultural intensification and poor management has also led the loss of many hedgerows or hedgerows that have grown out and are now evident only as remnant lines of trees.

Shaping the Future Landscape

The aim should be to **protect** existing rural landscape features and land uses which are characteristic of the type and to **plan** to restore or enhance those characteristic features which have been lost or are under threat. In particular, the restoration of hedgerows should be given priority, strengthening field patterns and enhancing linkages between woodlands. Grassland should be **managed** to encourage reversion, and important areas of heathland should also be **managed** through the introduction of grazing regimes and phased felling of coniferous plantations, to increase the overall occurrence of semi-natural habitats.

East Creech Area

FORESTRY AND WOODLAND

Forces for Change

Woodland is an important component of this landscape type and the aim should be to protect the existing pattern of enclosed woodlands and open pastures. Change in woodland species and composition may also become an increasing issue as climates continue to change, with implications for traditional woodland species.

Shaping the Future Landscape

The aim should be to **manage** existing trees and woodlands, including the potential reintroduction of traditional coppice management, to enhance biodiversity value and age structure through new planting and the creation of woodland edge habitats. Consideration should also be given to **planning** new woodland, in particular where this could assist in integrating new development into the landscape and to link existing woodland blocks and hedgerows. In **managing** existing woodlands and developing new areas of tree cover, careful consideration will need to be given to species composition, ensuring species reflect those that are characteristic of the type. However, as climate continues to change, such species mixes should be monitored to ensure continued suitability.

East Creech Area

LCT 11:
LIMESTONE PLATEAU

View over Limestone Plateau nearWorth Matravers

KEY CHARACTERISTICS

- Exposed sloping limestone plateau which plummets towards the sea along the cliff edge;
- Dramatic coastline with steep cliffs and incised deep valleys;
- Windswept wild landscape with virtually no trees;
- Defined by the long tradition of quarrying and use of local limestone, being covered by small quarries, spoil tips and tracks;
- Distinctive stark limestone villages and exposed farmsteads;
- Mixed farming with geometric fields divided by walls and some weak hedges;
- Open expansive views across the Corfe valley to the sea and from the coast; and
- Some important limestone grassland sites.

AESTHETIC AND PERCEPTUAL QUALITIES

An exposed, large scale landscape which slopes towards the coast and dramatic, vertical cliff faces, the Limestone Plateau has a strong, simple pattern of large open geometric fields enclosed by drystone walls, creating a strong sense of place and distinctive character. The lack of woodland and tree cover in this exposed windswept landscape allows wide panoramic views towards the coast and inland over the Clay Valley towards the Chalk Ridge and Corfe Castle. From coastal areas, on clear days, views can extend as far as Portland, with the distinctive landform of the peninsula visible as a backdrop and towards the Isle of Wight. Despite the lack of woodland cover, copses and small woodlands nestling in the valleys of the adjacent Clay Valley intersect with the Plateau providing a wooded backdrop to some inland views.

The simplicity of the landscape and land uses creates a smooth profile to this verdant character type. Scattered amongst the farmland are dwellings and farmsteads, largely located well away from the steep cliff edges. The type also contains small, unspoilt linear villages such as Worth Matravers. The use of local limestone in these villages and farms, as well as in field boundaries creates a strong vernacular character and sense of place. The extraction of stone for such development has also left a number of small quarries scattered across the landscape type.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Whilst there is limited development within the Limestone Plateau, there is the possibility of further pressure for infill and expansion of villages, together with additions to farm clusters, which could potentially affect the pattern and character of rural settlements. Expansion of nearby urban areas, although not within the landscape type, could potentially have an impact upon the open character of the Plateau, with detractors such as pylon lines and telegraph poles.

Shaping the Future Landscape

The aim should be to **protect** the distinctive character of the landscape and settlement pattern of small villages and scattered farmsteads. Any new development should be **planned** to ensure that the design and scale is appropriate and that local materials are used where possible. Architectural solutions that take inspiration from local distinctiveness and character, whilst utilising eco-friendly and high quality design, should be encouraged. Tree and hedgerow planting should be avoided as a means to help integrate development as these are not characteristic of the landscape. Careful consideration should also be given to development on the edge of existing urban areas where it could detract from the open skylines of the Plateau. Views to and from coastal waters should also be taken into account when assessing the suitability of development.

AGRICULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

Currently a landscape of mixed farming, changes to grazing patterns are potentially resulting in scrub encroachment in a number of areas and also causing the loss of limestone grasslands, important for their habitats and the diversity they bring to the landscape. Intensification is also contributing to the loss or damage of many typical landscape features, most notably historic field patterns and stone walls and features such as strip lynchets. This could lead to a more homogenous landscape in what is a relatively rare example of Limestone Plateau in Dorset, if not managed sensitively.

Shaping the Future Landscape

The aim should be to **protect** existing rural landscape features and land use patterns, which are characteristic of the type and to **plan** to restore or enhance those characteristic features which have been lost or are under threat. In particular, the restoration of drystone walls should be given priority and replacement of post and wire fences with walls, strengthening field patterns and reinforcing local vernacular. Grasslands should be **managed** to encourage reversion, to increase the occurrence of semi- natural habitats, and ensure that a mixed pattern of land use is retained. Where scrub encroachment has occurred, fields should be **managed** with appropriate grazing regimes to control further spread.

TOURISM AND RECREATION

Forces for Change

The Limestone Plateau, in particular the dramatic coastal areas and limestone cliffs, is a popular tourist destination with a rich geological and cultural heritage. As such, this area experiences considerable visitor pressure, popular with walkers and day-trippers with a number of car parking facilities set back from the coast. Large numbers of people, along with supporting visitor facilities can result in damage, loss and fragmentation of natural features, reduction in tranquillity and visual intrusion, unless managed sensitively.

Shaping the Future Landscape

In order to **protect** the distinctive character of the landscape any new or extended visitor facilities, such as car parks and interpretation facilities, should be carefully **planned** to take account of visual and environmental impacts. Public access should be **managed** in order to help to **protect** the natural environment whilst enhancing the Plateau as a recreational resource.

View towards coast across Limestone Plateau near Worth Matravers

LCT 1J:
LOWLAND HEATHLAND

Studland Heath

KEY CHARACTERISTICS

- An undulating lowland landform with a distinctive open, exposed and uniform character;
- Associated with the poor, sandy and infertile soils of the Poole Basin;
- A complex, diverse and often fragmented mosaic of heather carpets, grassland, birch/pine wood and scrub, which combine to create a blend of textures and colours;
- Heavily influenced by urban development and associated pressures;
- Wide, expansive and open views especially from elevated areas;
- Important European designated habitats and species; and
- A fragile landscape easily damaged by human activities e.g. fire and motorcycles.

AESTHETIC AND PERCEPTUAL QUALITIES

Located to the south and west of Poole Harbour, the Lowland Heathland is a landscape combining a mosaic of heathland and grassland, with isolated field of rough pasture, interspersed with coniferous plantations and regenerating pine and birch woodland. The diversity of land uses creates a variety of textures and a colourful landscape, in particular when the flowering gorse of the heathland contrasts with surrounding grassland areas and rough pastures. Despite the varying uses, the character is one of simplicity and visual uniformity.

A gently undulating landform allows open, wide panoramic views across the landscape type and Poole Harbour towards the urban area of Poole. The close proximity of urban areas has had an impact on the Lowland Heathland, not only from a visual perspective, but also physically due to the introduction of various land uses, such as golf courses, caravan parks and mineral extraction. Despite such features, the landscape retains a vacant, natural character, due mainly to the majority of the Heathland being afforded some form of protection, including designations as a Special Protection Area and Sites of Special Scientific Interest.

Occasional roads and tracks cross the heathland, and whilst surfaced roads represent modern intrusion in the otherwise semi-natural heaths, they often follow ancient tracks. Travelling along these routes is often highly evocative, with a limited sense of enclosure provided by the broadleaved woodlands which often flank these roads.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

The Lowland Heathland is largely unsettled, with potentially limited scope for accommodating additional residential or commercial development. By contrast, extensive urban areas are evident on the edges of the Heathland. In these areas, demand for development could potentially affect the character of the Heathland and encroach into the area unless managed sensitively. Its protected status may also restrict development.

Shaping the Future Landscape

The aim should be to **protect** the distinctive character of the Lowland Heathland landscape. Inappropriate built development in these areas should be resisted. Any further development of urban areas on the edges of the Heathland should be carefully **planned** to ensure it does not unnecessarily encroach into the landscape type resulting in a loss of the distinctive and unified character, visual degradation and further habitat fragmentation.

MINERALS AND WASTE

Forces for Change

There are a number of oil wells and an oil gathering stations within this landscape, with the oil being piped to the far side of Southampton Water for export by tanker. There are many impacts associated with oil extraction, including visual intrusion and adverse effects on heritage features and wildlife habitat. Exploration and the pressure for further oil have the potential to cause further damage to the landscape.

Shaping the Future Landscape

The aim should be to **manage** further oil extraction infrastructure to minimise visually intrusive elements in open areas and where key views exist. Planning guidance for the extraction and exploration of oil should be produced where necessary, establishing the most appropriate sites for extraction and associated infrastructure within this distinctive LCT.

AGRICULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

Grazing is important for the vegetation structure and overall ecology of the Heathland. However, changes in agriculture practices and management have led to areas of under grazing and encroachment by scrub, bracken and woodland succession. Changes in climate are also likely to have an impact on the low lying Heathland, with rising sea levels and marginal areas potentially becoming subject to flooding.

Shaping the Future Landscape

The aim should be to **protect** the existing heathland features, which are characteristic of the type and to **plan** to restore or enhance those characteristic features which have been lost or are under threat. In particular, the balance and mosaic of heathlands and grassland should be **managed** through the promotion of grazing regimes to limit encroachment from scrub, bracken and woodland succession. Where appropriate, and where scrub habitats do not have a screening or biodiversity role, phased removal should be considered. Consideration should also be given to the opportunities that exist to reconnect existing areas of heathland.

The sense of openness on the Heathland should be **managed** to ensure that a balance is retained between wooded areas and views over the open heaths.

In response to potential sea level rise, the aim should be to **plan** for the creation of flood marshes on the edges of the Lowland Heathland adjacent to Poole Harbour, contributing to the diversity of habitats evident within the type.

FORESTRY AND WOODLAND

Forces for Change

Significant areas of the Heathland landscape include broadleaved woodlands, regenerating birch and pine, wooded scrubby heath, as well as coniferous plantations, though the latter have only become significant in more modern times. In areas, scrub encroachment and regenerating woodland are reducing areas of important heathland and creating a more homogenous landscape.

Shaping the Future Landscape

The aim should be to **manage** woodland and to limit scrub encroachment by scrub clearance in a number of key areas, most notably where views are to be opened up towards the heaths and where scrub does not have a screening or biodiversity role. Existing trees and woodlands should be **managed** to enhance biodiversity value and age structure through the creation of woodland edge habitats. Where woodland is extended, it should **planned** to respond to local landform and to ensure that key views are not obscured. Woodland thinning should be encouraged within and around wooded heath habitats to maintain diversity. Extensive new tree planting on the heaths should be resisted.

TOURISM AND RECREATION

Forces for Change

The Lowland Heathland provides a significant tourist destination in southern Dorset, being popular for walking and nature conservation activities, as well as providing access to Poole Harbour and its various islands and the urban area of Bournemouth. As well as dedicated rights of way across the heaths, there are numerous informal paths and trackways providing extensive access across the area. However, recreational activity can result in the loss of tranquillity and can physically damage heathland. Furthermore, there are an increasing number of car parks, viewpoints and picnic sites along the roads crossing over the heaths. As with any new development, this can cause visual intrusion and result in the loss of landscape features.

Shaping the Future Landscape

Public access to the Heathlands should be **managed**, to assist in conserving the natural environment whilst enhancing the Heathland as a recreational resource. Any new facilities should be carefully **planned** and sited to ensure that further visual intrusion and fragmentation of the heathlands is avoided.

LCT 1K:
NATURAL HARBOUR

Christchurch Harbour

KEY CHARACTERISTICS

- A distinctive mix of tidal mudflats, marshland, reed bed, open water and shingle bank;
- Indented and shallow shorelines to the harbour, which resemble large lakes;
- A large scale, open, tranquil and generally unspoilt landscape;
- Provides an important range of habitats of significant conservation value;
- Provides unique setting for the towns of Poole and Christchurch;
- Important vistas and views of historic and cultural importance;
- Unique and sensitive interrelationship with urban edges and the natural environment;
- Provides important and popular open space and recreational value; and
- Many key features of interest such as Sandbanks Peninsula, Poole Harbour islands, Poole Harbour Entrance, Mudeford Quay, Christchurch Priory environs and Hengistbury Head.

AESTHETIC AND PERCEPTUAL QUALITIES

Surrounded by heathland landscapes and urban development, Poole Harbour is also physically linked to the Active Coastal Waters by the channel between Studland and the Sandbanks Peninsula. The Natural Harbour has a distinctive character of varying land uses from large expanses of open water, winding creaks and indented shallows to mudflats, marshland and reed beds. These combined with significant urban influences from Poole create a complex, large scale landscape with a strong character and sense of place, where water provides a unifying element. Despite the close proximity of large developed areas, large tracts of the harbour show few signs of human intervention and retain a natural, tranquil character, reflected in the many biodiversity designations across the type.
Whilst views across the harbour are wide and panoramic, landform of surrounding terrestrial types frames views and provides a varied backdrop, adding to the diversity of the type and creating an interesting character. Where boats are moored, further interest and colour is added, with wooded islands and boat masts adding vertical elements and texture.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Whilst the Natural Harbour has a largely undeveloped character, with the exception of isolated buildings on Brownsea Island, the urban expansion of Poole poses a potentially significant threat to the setting of the character type. A balance needs to be achieved to ensure rural open views are protected and urban areas are contained and visual detractors minimised.

Shaping the Future Landscape

The aim should be to **protect** the distinctive character of the landscape, resisting development that would detract from the natural, tranquil character which prevails. Any development should be **planned** with innovative environmental design or landscape and architectural solutions that minimise impact on the landscape and to avoid interrupting open views from adjacent open space and the countryside. In urban fringe areas, Urban Fringe Management Plans can help to control inappropriate development and expansion into surrounding, often more rural landscape types.

Poole Harbour from Dean Hill

Poole Harbour

LAND MANAGEMENT AND FISHING

Forces for Change

Although the majority of the harbour is given over to large expanses of water, the marginal areas are diverse, including reed beds, marshes and mud flats, as well as the scattered well wooded islands. Changes in management techniques and human intervention have the potential to interrupt the sensitive balance of the character type, including drainage works on the periphery of the harbour to potentially reclaim marginal land and uncontrolled discharge of pollutants. Dredging works should also be carefully monitored to ensure such activity is for maintenance purposes only and causes minimal damage. Fishing, particularly clam and cockle dredging can have an impact on water quality and benthic communities, and unlicensed bait collection can also cause localised disturbances.

Shaping the Future Landscape

The aim should be to **protect** the existing balance of land uses, which are characteristic of the type, and to **plan** to restore or enhance those characteristic features which have been lost or are under threat. In particular, scrub and tree encroachment in marsh areas and reed beds should be **managed** to ensure it is not detrimental to the sensitive ecological balance. Rotational reed and marsh land management should also be encouraged to retain the diversity of character. Where drainage works are taking place, these should be **managed** to ensure compatibility with nature conservation objectives. Maintenance dredging should continue to be **managed** to ensure there is minimal disturbance to important habitats that contribute to the character of the harbour.

The aim should be to continue to **manage** effluents and run-off into the harbour, following due processes, to ensure that benthic and pelagic habitats are maintained. Pollution should be addressed at source with managing and monitoring of river water quality through the use of River Basin Management Plans and the Harbour Management Plans for the relevant natural harbours.

TOURISM AND RECREATION

Forces for Change

The surrounding heathland and urban areas continue to be a popular destination for tourists. Where heathland abuts the harbour, the water's edge remains largely undisturbed and protected for its biodiversity and nature conservation interests. Where it is adjacent to urban areas recreational pressures are potentially more significant. Numerous marinas, beach huts and sandy beaches contribute to the complex character of the Natural Harbour, and a balance needs to be sought to ensure that recreational needs are met, whilst important habitats within the area are protected and the unspoilt and quiet character are maintained.

Shaping the Future Landscape

The aim should be to **protect** the distinctive character of the Natural Harbour and any new or extended visitor facilities should be **planned** to take account of the visual and environmental impact. Public access should be **managed** to ensure that the natural environment is **protected** whilst enhancing the harbour as a recreational resource. Increases in numbers and types of boat traffic should be carefully **managed**, not only to ensure minimal adverse impacts on existing tranquillity and visual characteristics, but also to ensure that pollution levels do not increase. Equally the enforcement of speed limits and control of anti-social behaviour by boat users is important in order to **protect** the intrinsic perceptual qualities of the Natural Harbour and reduce conflicts between different user groups.

LCT 1L:
SALINE LAGOON

The Fleet Lagoon and Chesil Beach

KEY CHARACTERISTICS

- A distinctive mix of tidal mudflats, marshland, reed bed, open water and shingle bank;
- Indented and shallow shoreline;
- A large scale, open, tranquil and generally unspoilt landscape;
- Provides an important range of habitats of significant conservation value;
- Important vistas and views of historic and cultural importance;
- The village of Abbotsbury and the Swannery are key features of interest;
- Unique and sensitive interrelationship with urban edges and the natural environment; and
- Provides important and popular open space and recreational value.

AESTHETIC AND PERCEPTUAL QUALITIES

Bounded on the seaward side by Chesil Beach and on the landward side by Ridge and Vale, the Saline Lagoon is visually contained by these character types and overlooked by the latter, together with the urban area of Wyke Regis to the north east. Views out to sea are limited by the linear ridge of Chesil Beach. Views to the south-east extend to the Isle of Portland which is a significant landmark. In adjacent types there are also historic landmarks such as St Catherine's Chapel at Abbotsbury, a medieval chapel which dates from the 14th century. The Saline Lagoon has a strong character and sense of place, although quite muted in colour due to the predominance of water. During summer months, however, it is likely to be a more colourful landscape. Together with the adjacent types, the Lagoon appears largely unified, defined by a limited number of land uses and features, including mudflats, marshland and open water. Although urban elements and man-made features can be visually intrusive in this natural landscape, they can also provide points of interest, for example where there are fishermen's sheds on the Chesil beach side of the lagoon and where smaller boats find sheltered moorings at the south eastern end of the Fleet. Where few of these features exist, a vacant landscape prevails with a sense of tranquillity and remoteness.

The Chesil and Fleet Steering Group plays an important role in the management of the lagoon and receives advice from the European Marine Site Advisory Group and scientific advice from the Fleet Study Group. The aim of management is to maintain the reserve as a stronghold for lagoon and shingle habitats and breeding and migratory birds.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

The Saline Lagoon has an undeveloped character, but the expansion of adjacent urban areas could potentially affect the setting of the lagoon and impact upon the natural, tranquil and vacant character, unless managed sensitively. A balance needs to be achieved to ensure rural open views are protected and urban areas are contained and visual detractors minimised.

Shaping the Future Landscape

The aim should be to **protect** the distinctive character of the landscape, resisting development that would detract from the natural, tranquil character which prevails. In urban fringe areas, Urban Fringe Management Plans can help to control inappropriate development and expansion into surrounding, often more rural landscape types.

LAND MANAGEMENT AND FISHING

Forces for Change

The majority of the lagoons consist of large expanses of water with mudflats and marshland with agricultural fields often meeting the landward side of the lagoons. The Fleet, together with Chesil Bank is designated as a nature reserve, as well as a SSSI, SAC, SPA, and Ramsar site, reflecting the importance of the natural habitats and associated wildlife. The Chesil and Fleet Steering Group manage the Reserve. Changes in management techniques and human intervention have the potential to interrupt the sensitive balance of the character type, including drainage works, sea defences and sea level rise and uncontrolled discharge of pollutants. There has been an Oyster farm in the Fleet, close to Portland, for 30 years. Currently it covers approximately two hectares, but demand is growing and there is potential for expansion.

Shaping the Future Landscape

The Chesil and Fleet Steering Group should continue to **manage** and monitor the lagoon including integrating the marine site management scheme with existing plans and initiatives, ensuring that management of the site, monitoring and review are successfully implemented. As part of this, use of the lagoons should be **managed** to ensure the mooring of boats does not become extensive, detracting from the natural, remote character of the area. Any expansion of aquaculture should take account of this balance and be in keeping with the landscape setting.

The aim should be to continue to **manage** effluents and run-off into the lagoons, following due processes, and to ensure that the important habitats are maintained. Pollution should be addressed at source with managing and monitoring of water flowing into the lagoons.

Monitoring should continue in order to understand any effects on habitats and species as a result of hydrological changes which could result from processes such as sea level rise or sea temperature changes.

TOURISM AND RECREATION

Forces for Change

It is often the peripheral areas of the lagoons that are popular locations for recreational activities, although the south eastern end of the Fleet is used as a sheltered mooring area for small boats. Visitor facilities are also located at the south eastern end of the Fleet, including car parking facilities, toilets and shop. Recreational activities around the lagoon and wider beach areas are generally restricted to try and reduce conflict with sensitive habitats and wildlife species and this balance should be maintained to retain the character of the lagoons.

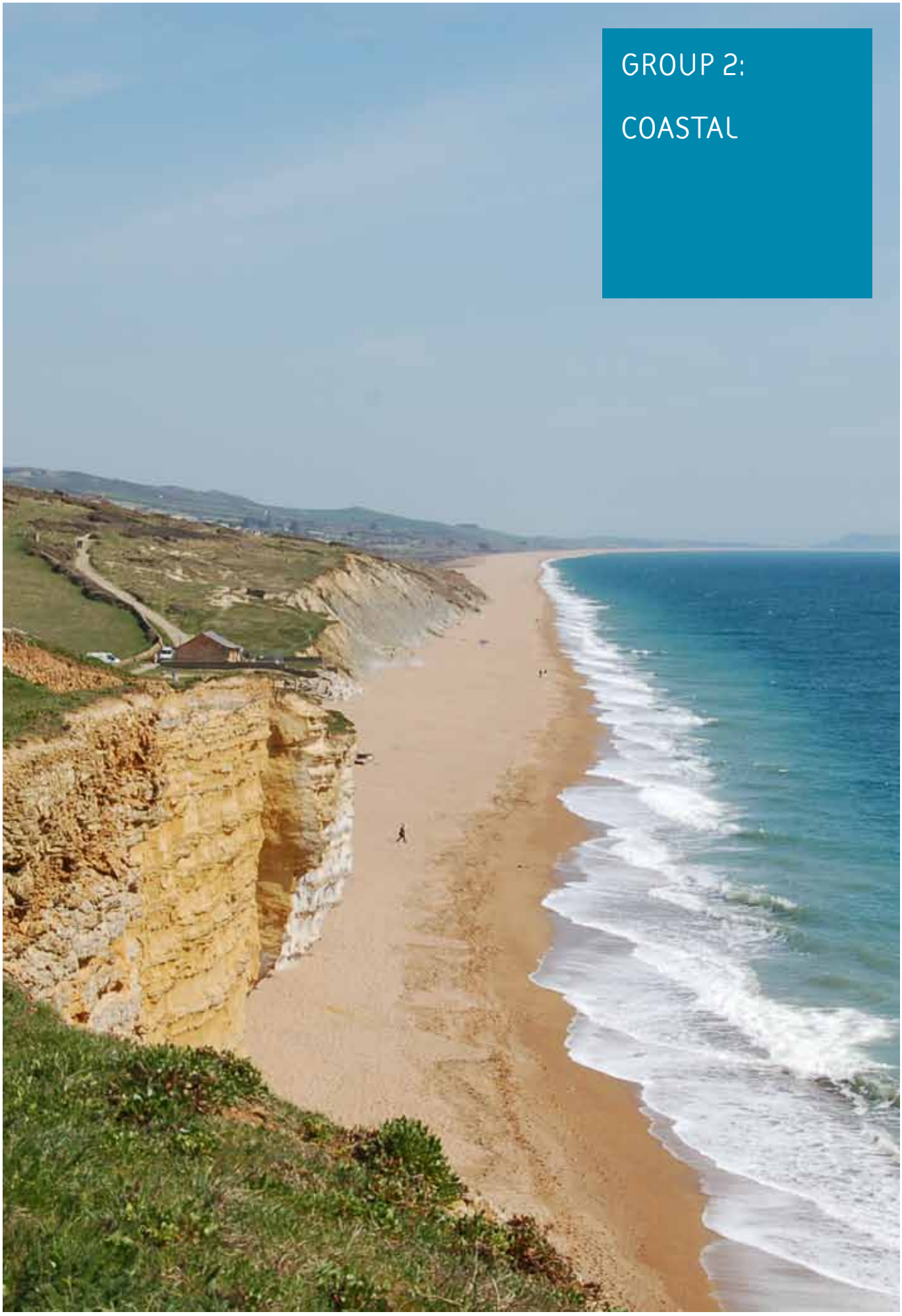
Shaping the Future Landscape

The aim should be to **protect** the distinctive character of the Saline Lagoon and to ensure that any new or extended visitor facility is **planned** to take account of the visual and environmental impacts. Public access should continue to be **managed** to assist in **protecting** the natural environment, and there is a need to reduce car dependence as a means of getting to the area. Interpretation information for visitors would be valuable.

Fleet Lagoon

GROUP 2:

COASTAL



West Bay and Chesil Beach

SCT 2A:
SANDY BEACHES

Studland Bay towards Handfast Point

KEY CHARACTERISTICS

- Predominantly sandy beaches generally not associated with extensive sand dune systems, except at Studland;
- Important recreational beaches for passive recreation, swimming and watersports;
- Warm sea temperatures;
- High biodiversity for marine and coastal habitats; and
- Coastal defences present on beaches associated with urban areas; sandy beaches associated with rural areas not managed by coastal defences.

SEASCAPE CHARACTER

The Sandy Beaches Seascape Character Type (SCT) comprises the important recreational beaches that occur along the Dorset Coast. These are mainly located on the eastern, more sheltered shores of the County and are generally associated with the main conurbations including Christchurch, Bournemouth, Poole, Swanage and Weymouth. There is also a small stretch of sandy beach at Lyme Regis. They are a key component of the existing Green Infrastructure of the SE Dorset region linking areas such as Poole and Christchurch Natural Harbours as well the land with coastal waters.

The Sandy Beach at Studland is also associated with the only significant and extensive sand dunes in Dorset which support dune heath and dune wetland, a relatively rare habitat in southern central England. The Studland dunes are designated as a National Nature Reserve. Relict dunes also occur at Sandbanks, Hengistbury and Mudeford.

Due to the popularity of the sandy beaches, which benefit from relatively warm coastal waters, they are generally managed, with beach cleaning and periodic replenishment taking place such as at Bournemouth, Poole and Swanage beaches. Most of the beaches retain Blue Flag status year on year and are popular destinations for families, for swimming and general recreation. Wind surfing, surfing and other water sports also take place. On most of the beaches there is some permanent tourist infrastructure including kiosks, refreshments, entertainments and other facilities and even the least managed beach at Studland has some facilities close to the car park. The character of these beaches substantially changes between seasons often being crowded in the summer months, whilst in winter they are mainly frequented by walkers and dog walkers. Due to the proximity to urban areas they feel less remote than many of the shingle beaches on the coast, with Studland being the most remote and natural sandy beach, although very popular during summer months.

PHYSICAL INFLUENCES

The sandy beaches of the Dorset coast are generally narrow in width. This is due to the relatively restricted tidal range on this coast and the fact that the intertidal zone shelves quite steeply into the coastal waters. The composition varies from fine sand to a mixture of sand and shingles, formed through the accretion and deposition of sandy sediments. The majority of the sandy beaches are protected by groynes and breakwaters which help to retain the sand. On some beaches the sand is also periodically replenished as part of ongoing management. The sand dune systems and beach at Studland are a popular destination but are less managed, and are also ecologically significant, being designated as National Nature Reserve. The Studland Reserve is managed by the National Trust.

The beaches are un-vegetated but support populations of a variety of invertebrates within the intertidal zone including bivalves and polychaetes. The dunes at Studland are vegetated, except where they have been eroded, and are important for reptiles and dune heath and wetland species.

Weymouth Beach

CULTURAL INFLUENCES

The sandy beaches provide an important recreational resource along this coastline serving the local population throughout the year and a substantial tourist influx in the summer months. The towns and their associated beaches have been important resorts since Victorian times, with the advent of the railways in the late 1800s contributing substantially to the numbers of people visiting the area. Following a decline in visitors after World War II, the beaches have regained their popularity. Bournemouth and Boscombe are also well known as surfing beaches and there is a recently constructed artificial surfing reef at Boscombe. Weymouth and Swanage are also popular destinations for surfers and windsurfers.

Studland Beach and dunes provide a less managed recreational experience and activities include good bathing, watersports, kayaking and wind surfing. It is also a naturist beach. There are limited facilities such as a car park, toilets, footpaths, cafe and interpretation. Amongst other associations, Studland provided inspiration for Enid Blyton and 'Toytown' as she holidayed on the Isle of Purbeck for many years.

AESTHETIC AND PERCEPTUAL QUALITIES

The Sandy Beaches SCT is a visually dynamic seascape which has a strong relationship to the adjacent Active Coastal Waters and the urban areas of the eastern Dorset coast. The character of the beaches is temporal, being busy and sometimes crowded in the summer months when they are important 'honeypots' for tourists. In contrast, in the winter they can appear quite remote and windswept with limited numbers of users. The ebb and flow of the tides, combined with changing weather conditions means that the perceptual and aesthetic qualities can change substantially, with calm days and good visibility offering clear views towards landmarks such as the Needles and adjacent headlands. At other times the beaches can be windswept, with windblown sand and salt spray, becoming inhospitable and wild, despite the proximity to urban areas.

SEASCAPE CHANGE AND MANAGEMENT

INFRASTRUCTURE

Forces for Change

The main sandy beaches are associated with urban areas and so the character is inter-linked with the development of the hinterland. Each seaside town tends to have a slightly different character with Bournemouth being the most populated, although the urban area is often screened by vegetation and cliffs to the rear of beaches which, in parts, visually divorces them from the town. Other towns, such as Swanage, have less intensive activities on the beach with fewer facilities and infrastructure. Traffic on Studland is a major issue in summer. Any development abutting and impacting on the setting behind any of the sandy beaches may affect the character and perceptual qualities of the associated beach. In addition, any development or infrastructure which encroaches on to the beach, such as car parks, kiosks, or refreshment areas, will also affect perceptual qualities, including the often well-defined edges and margins to the beach.

Shoreline management practices and coastal defences along the sandy beaches, which can include seawalls and groynes, have a visual effect on the beach character. Since most of the sandy beaches are associated with urban areas, management objectives are to continue to 'Hold the Line' to prevent erosion and the loss of property and infrastructure

Shaping the Future Seascape

Shoreline Management Plans (SMP) should continue to be updated on a regular basis to take account of climate change, changes to coastal processes and the importance of the Sandy Beaches SCT along this coast, particularly as a recreational resource. Any changes to coastal defences should take account of the character and visibility of the beaches form adjacent coastal and marine areas.

Where sandy beaches are a component of the sub regional Green Infrastructure, they should be managed as part of the strategic approach being taken to GI provision.

The aim of future strategies for this SCT should be to **plan** and **manage** coastal infrastructure to ensure that any further coastal development is appropriate to the design and scale of existing settlement patterns. The **planning** and **management** of access and parking will be important in determining use levels and to ensure future uses are compatible with the character of the sandy beaches. On sensitive beaches, such as Studland, there is a need to reduce car dependence as a means of getting to the area. Although features such as piers can contribute to the character and expand the use of a beach, such as at Bournemouth, it is important that any such infrastructure is carefully **planned** with due consideration of the perceptual and aesthetic qualities of the beach.

TOURISM AND RECREATION

Forces for Change

The quality of the sandy beaches in Dorset and their location with relatively easy access from the south-east, makes them very popular, but further expansion of tourism and recreation activities, both on land and in coastal waters, unless properly managed could cause overcrowding or result in conflicts between users.

Beach replenishment is periodically undertaken which keeps both the sand and the beach structure in good condition. Any changes to current practices would potentially affect this intrinsic and valuable quality.

To maintain beach cleanliness and Blue Flag status many of the beaches are cleaned. This can remove strandline communities on some beaches, particularly where these are mechanically cleaned. Marine litter is a significant detractor along beaches and in coastal waters and can pose a threat to wildlife as well as visual amenity. Litter is mainly derived from offshore shipping and fishing activity as well as from terrestrial sources and beach users themselves.

Shaping the Future Seascape

This SCT should be **managed** to ensure that the types and location of activities and numbers of users on beaches is balanced to avoid user conflicts and congestion. This should take due regard of the diversity of experience that different beaches offer and seek to maintain this diversity. For example, beaches such as Bournemouth offer a variety of activities close to the town centre car parks, but other stretches of the same beach can offer a more passive and tranquil experience and it is beneficial to maintain this variety. In contrast, any further development at Studland must be balanced between recreational facilities and the need to **protect** biodiversity and the stability of the sand dune system.

Marine litter and pollution is a continuing issue and threat to beach and water cleanliness. Initiatives to **manage** litter through reduction, collection and disposal should continue to be implemented.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Sea level changes or changes in coastal processes as a result of climate change may result in coastal squeeze. Coastal squeeze is the process by which intertidal areas, which would normally move inland in response to changed coastal processes such as sea-level rise, are prevented from doing so as a result of man-made infrastructure (seawalls, embankments, roads etc). Thus intertidal areas (e.g. beaches, saltmarsh, mudflats) are lost or reduced in extent. Given the importance of these beaches for the local economy and recreation this will be an important consideration for future Shoreline Management Plans (i.e. the construction of hard defences (such as sea walls) increases the likelihood of coastal squeeze). Any reduction in beach area may add to conflicts in uses or contribute to further overcrowding issues.

An increase in intensity or frequency of storms or adverse weather events could potentially increase erosion or create changes in the beach substrate which could impact on the need to provide further coastal defences or a review of the sustainability of beach replenishment.

Due to the proximity of urban areas to the beaches any changes to sea level or coastal processes may also threaten parts of the town with possibilities of flooding, accumulation of windblown sand, or erosion of cliffs or sea defences that currently protect properties.

Shaping the Future Seascape

Shoreline management plans should continue to be updated on a regular basis to take account of climate change, changes to coastal processes and the importance of the Sandy Beaches SCT as a recreational resource. Evaluation of the visual and perceptual impacts of coastal management should be integral to any such management plans.

Any infrastructure or development associated with the Sandy Beaches should be carefully **planned** and **managed** to ensure that the various recreational uses can continue to coexist and the intrinsic perceptual and aesthetic qualities of each beach are protected whilst responding to changing demands.

SCT 2B:
SHINGLE BEACHES AND SPITS

Seatown

KEY CHARACTERISTICS

- Large, often raised shingle beaches and spits, formed by longshore drift with predominance of shingle forming beach substrate;
- Size of shingle varies from very fine to large shingle and sometimes mixed with sand;
- Often important for protection of cliff bases; and
- Chesil Beach is an impressive example of the type due to its height and extent and is a unique feature on the Dorset coast.

SEASCAPE CHARACTER

The Shingle Beaches and Spits Seascape Character Type (SCT) includes most of the beaches to the west of the Isle of Portland including the raised beach at Chesil Beach and shingle spit which links Portland to the mainland. These western shingle beaches are more extensive and substantial than the limited number of shingle beaches to the east of Portland. They are mostly raised with the forward slope shelving steeply into the sea, where the sea bed also often falls away quickly. The landward slope falls inland forming a shallow valley behind the beach. Further westwards the shingle beaches become narrower, less domed and with a finer grade of shingle. The shingle beaches to the east of Portland are generally narrow strips of shingle, often mixed with varying amounts of sand. Towards the eastern edge of the County and into the Solent the frequency of shingle beaches increases again with many beaches within the Solent consisting of coarse shingles. The shingle beaches to the west of the County and also in the areas to the east of Portland protect the bases of cliffs, whilst Chesil Beach is backed by gently sloping Coastal Grasslands, with no cliffs present. Most of the Shingle Beaches are within the Dorset AONB.

They are a component of the existing Green Infrastructure of the SE Dorset region linking areas such as Poole and Christchurch Natural Harbours as well the land with coastal waters.

PHYSICAL INFLUENCES

At its highest, Chesil Beach reaches up to 14 metres above mean high water mark. Recent theories suggest that the shingles are derived from ancient landslides which were buried on the seabed but whose movement was reactivated with sea level rise, following the last Ice Age, and deposited on the coast by longshore drift.

The shingles vary in size ranging from fine red shingles on beaches towards the western end of Lyme Bay to the larger shingles of Chesil Beach which are graded along its length. The flint and chert shingle ranges from pea sized at the north-west end of Lyme Bay to fist- sized by Portland. The shingle beaches to the east of Portland sometimes have sand mixed in with the shingle and tend to be narrow with shallower profiles.

Many of these beaches are often quite inaccessible and Chesil Beach is cut off from the mainland by the Fleet Saline Lagoon which runs behind it for much of its length. Access to other shingle beaches may be limited by cliffs.

Most of the shingle beaches are un-vegetated as they are subjected to some wave action, but there are limited areas where the shingle is stable enough to support some vegetated communities. The vegetation depends on the amount of finer materials mixed in with the shingle, and on the hydrological regime. Shingle structures sufficiently stable to support perennial vegetation are a comparatively rare feature in the UK, despite the fact that shingle beaches are common, and the vegetated shingles of Chesil are therefore an important habitat. Shingle structures may support breeding birds including gulls, waders and terns and Chesil Beach is an internationally important breeding ground for Little Terns. Diverse invertebrate communities are also found on coastal shingle, with some species restricted to shingle habitats.

Shingle vegetation is fragile and the wear and tear caused by access on foot, and particularly by vehicles, can cause damage.

CULTURAL INFLUENCES

Chesil Beach, in particular, with its remote and wild qualities is associated with smuggling. It is said, for example, that smugglers who landed on the beach in the middle of the night could judge 'exactly where they were' by the size of the shingle on the beach. There have been many novels and stories located at the beach including 'On Chesil Beach' by Ian McEwan and 'Moonfleet' by J. Meade Falkner, first published in 1898 which is set on Fleet Lagoon. Many artists have depicted the beach and lagoon and these pictures often feature the traditional flat bottomed sailing boat, the lerret, which was associated with this area.

Chesil Beach also has long associations with military activity. Practice runs were undertaken along Chesil Beach to test the 'bouncing bomb' famously associated with the 'Dambusters' in World War II.

Other shingle beaches are less significant and prominent along this coast but many of the shingle beaches are used by anglers for shore fishing and also by walkers. However, they do not attract the large numbers of beach goers that frequent the sandy beaches in the east of the County. The exception is where the beaches are backed by slumped cliffs and yield high numbers of fossils. Here the beaches can get very busy with fossil hunters, such as at Charmouth, as well as people attracted to prominent cliffs such as the dramatic sandstone cliffs of West Bay.

AESTHETIC AND PERCEPTUAL QUALITIES

The wide raised shingle beach, with its sweeping line, at Chesil Beach has a wild and remote quality especially in adverse weather conditions, but maintains this character to a large extent throughout the year since it is relatively inaccessible and far from any infrastructure. This and many of the shingle beaches occur on the more remote rural parts of the coast where access is limited by narrow roads with only a few car parks close to the beach. The exceptions are the small towns in the west of Lyme Bay where the beaches can get very busy in good weather, especially by fossil collectors and walkers. Due to the steeply shelving beaches there is less water sport and swimming activity off these beaches than the popular sandy beaches in the east of the County. The coarse substrate is moved around by wave action and so the perception of wildness on the shingle beaches can be enhanced by the natural noise of wave action on stones.

SEASCAPE CHANGE AND MANAGEMENT

INFRASTRUCTURE

Forces for Change

Changes to shoreline management practices and coastal defences along the shingle beaches or on other parts of the coast, where changes can have a knock on effect, could potentially affect coastal processes including the mix of beach substrate.

For much of the SCT west of Portland the policy for the SMP is of 'No Active Intervention (NAI)'. This allows natural processes to take their course with the shoreline advancing landward as a result. The exception to this is in developed areas (such as at Seatown) where 'Hold the Line' (HtL) policies will be taken forward to actively manage the coast and prevent erosion and the loss of property and infrastructure.

Shaping the Future Seascape

Shoreline Management Plans (SMP) should continue to be updated on a regular basis to take account of climate change, changes to coastal processes and the importance of the Shingle Beaches SCT along this coast, both as a recreational resource and in coastal protection.

Where shingle beaches are a component of the sub regional Green Infrastructure, they should be **protected** and **managed** as part of the strategic approach being taken to GI provision.

Any proposals for further development of coastal defences must be **planned** with due regard to the aesthetic and perceptual characteristics of the beaches, in order to **protect** the sweeping lines of beaches and the undeveloped shoreline, from visual intrusion. It should also take account of visual impacts of any defences on the adjacent marine and terrestrial types where there is intervisibility.

TOURISM AND RECREATION

Forces for Change

There is continuing pressure to expand tourism and leisure facilities along the coast. The landform in the beach hinterland will largely determine where development could be located so as not to visually detract from the beach environment. For example, given the characteristic sweeping views along Chesil Bank and The Fleet, any development would need to be carefully sited to ensure that the integrity of this panorama is not interrupted.

Damage to vegetated shingle can be caused by military uses, and vehicle access to beaches by fishermen, or for recreational use. Such disturbance can also affect breeding birds.

Marine litter is a significant detractor along beaches and in coastal waters and can pose a threat to wildlife as well as visual amenity. This is derived from offshore shipping and fishing activity as well as litter from terrestrial sources and beach users themselves.

Shaping the Future Seascape

Any tourism and recreation development or infrastructure must be **planned** and sited with due regard to the aesthetic and perceptual qualities of the beaches, the hinterland or adjacent marine areas, where this may result in visual intrusion or detract from key characteristics.

Any development must be carefully **planned** particularly where it could increase access to sensitive beach habitats such as the vegetated shingles and important nesting sites.

Marine litter and pollution is a continuing issue and threat to beach and water cleanliness so initiatives to reduce, collect and dispose of marine litter should continue to be implemented.

In assessing the impacts of recreation on beaches, due account should also be taken of whether increases in activity may affect the remote and wild qualities of many of these beaches.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Sea level changes or changes in coastal processes as a result of climate change may result in coastal squeeze (see Sandy Beaches SCT) resulting in the loss or reduction in the extent of the Shingle Beaches and Spits SCT. Erosion of associated cliffs may also result in beach loss or introduction of soils etc. on to beaches.

Climate change may also increase the intensity or frequency of storms or adverse weather events potentially resulting in increased erosion or changes to beach substrate.

Shaping the Future Seascape

Shoreline Management Plans (SMPs) should continue to be updated on a regular basis to take account of climate change, changes to coastal processes and the importance of the Shingle Beaches SCT along this coast both as a recreational resource, valued habitat and in coastal protection.

Chesil Beach courtesy of DCF

SCT 2C:
SLUMPED CLIFFS

Eype Mouth

KEY CHARACTERISTICS

- Softer rock cliffs, susceptible to erosion and landslips although may be stable for long periods;
- Softer substrate provides habitat for colonisation of cliffs with vegetation over time;
- Beaches, usually shingle, protect cliff bases;
- Significant fossils often present; and
- Important cliff type within the internationally protected Jurassic Coast WHS.

SEASCAPE CHARACTER

The Slumped Cliffs Seascape Character Type (SCT) comprises sections of softer rock cliffs along all parts of the Dorset coast, with the coast in Lyme Bay having predominantly Slumped cliffs, where cliffs occur. To the east of Portland and on the Isle of Portland, Slumped cliffs alternate or combine with Hard Rock Cliffs eastwards to Durlston Head and along limited sections of the Poole Bay coastline. The Slumped Cliffs are generally dark grey shales, mudstones and clays which have slipped and slumped at various times and, if they are stable enough, may support vegetation. There can be significant fossil deposits within the cliffs. They are very often associated with shingle beaches of various grades which tend to protect the cliff base and are an important component of the Jurassic Coast World Heritage Site. Most of the Slumped Cliffs type falls within the Dorset AONB.

PHYSICAL INFLUENCES

The softer rock Slumped Cliffs have developed where materials are easily eroded and may be rapidly eroding or actively unstable landslide complexes. The rocks are usually shales, mudstones and clays, along the Dorset coast, and can combine with harder rock seams, such as limestone or sandstone which form harder caps or seams above the slumped slopes. Examples of this occur on the Isle of Portland where there are limestone caps to the Slumped Cliffs and Golden Cap, near Charmouth, which is golden greensand rock and the highest point on the south coast of England. Erosion of these cliffs can result in boulders and rocks falling on to the beaches below, and it is these softer rocks which yield many fossils as they erode.

The profile of the coast is often very varied due to the complex geology, with the cliff tops sloping steeply to either side against the shoreline so that the cliff top paths can be very undulating.

The cliffs support a variety of plant communities, depending on exposure and sea spray, and sheltered parts can develop undercliff vegetation such as woodland, scrub, tall herb and grassland. The land above the cliffs, where suitable, such as the Clay Valleys, is often used for arable crops and there is evidence of crops migrating on to the cliffs and changing the nature and character of the vegetation. The cliff tops can support specialised plant and invertebrate species as well as providing habitat for seabirds.

CULTURAL INFLUENCES

The Dorset coastline provides diverse, often unspoilt habitat of considerable scientific and scenic value which has resulted in much of the coast being designated as World Heritage Site (Jurassic Coast) and AONB. Where development has occurred close to the slumped cliffs, either in towns and villages or for holiday and tourism development, such as caravan parks, this places pressure to protect and stabilise the coast to prevent loss of property, which may interfere with natural coastal processes of erosion, landslip and sediment movement.

Agriculture is associated with much of the coastline where there are Slumped Cliffs and use of land for arable crops right up to the cliff top has often displaced the natural cliff top vegetation. Where grazing patterns have changed in grasslands there has also been a tendency for scrub invasion.
The coastline is very popular with walkers and the Dorset Coast path is continuous with the long distance South West Coast path. There can be considerable pressure especially with the popular walks to high points, and there is evidence of erosion on many of the paths especially on steeper slopes where the path climbs up from the coastal car parks, which are sited at low points and where there is beach access.

The slumped and erodible cliffs tend to yield the most fossils and fossil collecting is a popular pastime on Dorset's beaches, especially around places such as Charmouth.

AESTHETIC AND PERCEPTUAL QUALITIES

The Slumped Cliffs are often dark in colour and mainly grey, where the soft rocks are exposed and unstable. In other areas, and often near towns, where some coastal defences are in place, they have become vegetated and support trees and scrub and so appear very textured and green. In rural areas where natural processes of erosion occur there can be areas which are stable and vegetated for many years and then there can be significant landslides which displace the vegetation and render the cliff face bare again.

The cliffs themselves are not used for any activities but the paths above and beaches below the cliffs can attract walkers and fossil hunters. When the weather is good these areas can be quite busy, even in winter.

High cliffs may be fenced for safety reasons, which tends to detract from the unspoilt qualities of the coast as do eroded paths leading from car parks on to the Coast Path which are often up steep slopes and are very visible.

SEASCAPE CHANGE AND MANAGEMENT

INFRASTRUCTURE

Forces for Change

Pressure to expand tourism facilities could result in the need to expand and improve local infrastructure and access to the coast.

Shaping the Future Seascape

The aim of future strategies for this SCT should be to **plan** and **manage** coastal infrastructure to ensure that any further coastal development is appropriate to the design and scale of existing settlement patterns and takes account of intervisibility with adjacent coastal and marine areas. The **planning** and **management** of access and parking will be important in determining use levels and to ensure future uses are compatible with the character of the SCT. Plans to reduce car dependence as a means of getting to the area should be implemented.

AGRICULTURE, LAND USE AND FISHERIES

Forces for Change

The cliff tops often support a variety of plant communities including some rare species. Changes to grazing patterns in adjacent grasslands can lead to scrub encroachment which could impact on cliff top vegetation in the longer term either by influx of woody species or as a result of cliff top erosion pushing the cliff top back. Additionally, migration of crop species down the cliff face can occur and it was noted that rapeseed, for example, is often seen growing on cliff tops, where there are adjacent arable uses. This can change aesthetic characteristics of the vegetation and the habitat of the cliff tops.

Shaping the Future Seascape

The aim should be to **manage** and monitor cliff top vegetation to ensure arable species do not displace the natural vegetation. Management of grassland habitats, such as chalk grasslands, should be encouraged in adjacent agricultural land through appropriate grazing regimes, to assist in maintaining cliff top habitats in a natural condition.

TOURISM AND RECREATION

Forces for Change

Erosion on cliff tops particularly on the steeper slopes due to recreational pressures of walkers is both unsightly leaving bare tracks as scars, and could also increase instability.

There is continuing pressure to expand tourism and leisure facilities along the coast. The landform in the beach hinterland should determine where development can be located so as not to visually detract from the coastal seascape.

Where the cliffs are actively eroding or susceptible to landslip, this may result, in the long term, in development gradually becoming more exposed to coastal views, especially where intervening vegetation is lost.

Inappropriate fossil collecting is an ongoing concern although responsible collecting is encouraged. Education is an important factor in controlling this activity.

Shaping the Future Seascape

The aim should be to **manage** access to the cliff tops, on an ongoing basis. Where cliffs are actively receding, there should be regular checks for stability which may result in footpaths having to be re-routed further back for safety reasons. In other areas re-routings may be minor and temporary to assist with repairs to erosion and regeneration of grass and vegetation.

Any tourism and recreation development or infrastructure should be sensitively **planned** and sited having regard to the aesthetic and perceptual qualities of the cliffs, hinterland and adjacent marine areas where this may result in visual intrusion or detract from key characteristics. The future potential for exposure of development, due to cliff erosion, should also be taken into account.

Management of fossil collecting and continuing public education about responsible collecting, is important to ensuring the cliffs are not unnecessarily destabilised and that important fossil finds are correctly reported.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Coastal defences to protect infrastructure can interfere with the natural coastal processes or erosion of the shoreline. Where Slumped Cliffs are close to settlement various coastal defences have been constructed including rock placements to cliff base and seawalls, such as those supporting the promenade around West Bay. Further coastal defences need to be carefully considered as these can affect erosion and deposition patterns, as well as slowing erosion of the cliffs, which is considered undesirable in the Dorset and East Devon WHS Management Plan. For much of the SCT, both west and east of Portland, the policy for the SMP is of 'No Active Intervention' (NAI). The plan allows for natural processes to take their course with the shoreline advancing landward as a result. The exception to this is in developed areas, such as at Seatown and Lyme Regis where 'Hold the Line' (HtL) policies will be taken forward to actively manage the coast and prevent erosion and the loss of property and infrastructure.

Climate change may also result in an increase in the intensity or frequency of storms and adverse weather events in the future, which could result in coastal squeeze. Since adjacent beaches may be protecting the cliff base from wave action, coastal squeeze could result in accelerated erosion.

The receding coastline can and is already, in places, impacting on coastal access paths resulting in paths having to encroach on adjacent land uses and ownership.

Shaping the Future Seascape

Shoreline Management Plans should continue to be updated on a regular basis to take account of climate change, changes to coastal processes and the importance of the Slumped Cliffs SCT along this coast not only as a feature, but also as an important geological resource. Future Management should also take account on the policies within the World Heritage Site Management Plan.

Chapmans Pool and Egmont Point

SCT 2D:
HARD ROCK CLIFFS

Dancing Ledge, Purbeck

KEY CHARACTERISTICS

- Hard cliffs generally of sandstone, chalk and limestone with vertical or near vertical faces and ledges, often dramatic, with pinnacles and pillars.
- Often highly visible from long distances due to height and colour;
- Clifftops provide significant panoramic views especially when associated with high points;
- Generally un-vegetated but may support some vegetation;
- Any ledges provide important habitat for nesting seabirds;
- Generally relatively stable and resistant to erosion; and
- Important cliff type within the internationally protected Dorset and East Devon World Heritage Site.

SEASCAPE CHARACTER

The Hard Rock Cliffs Seascape Character Type (SCT) comprises hard rock cliffs generally of sandstone, limestone or chalk which tend to be vertical or near vertical and are often dramatic. Occasionally these can be cliffs with layers of hard and soft rock which still maintain a near vertical profile, which fall into this category. Hard rock cliffs occur mainly on the Isle of Portland and eastwards, and also alternate with Slumped Cliffs or occur in combination with slumped bases and hard rock caps. Chalk landslips form very distinctive and visible landscape features at Wobarrow and Swanage Bays. The only significant hard rock cliffs west of Portland, within Dorset, are the prominent sandstone cliffs at West Bay (East Cliff).

The Hard Rock Cliffs are often highly visible from long distances, not only because of their height and profile but also because of the colour, which varies from dark greys, to light greys, to ochres and white chalk. The cliff tops often have significant panoramic views from the paths above and the coastal high points are often formed by the cliffs or run close to the cliff tops, limiting views inland. The cliffs, due to their vertical or near-vertical faces are often un-vegetated, although those composed of chalk can vary from completely un-vegetated to having quite well vegetated faces.

Cliff ledges provide important nesting sites for breeding colonies of birds. Notable examples are puffin and guillemot colonies on the Durlston ledges.

Although varying in hardness, the Hard Rock Cliffs are relatively stable and resistant to erosion with the limestones of Purbeck tending to be the most resistant rocks on the Dorset coast. The Hard Rock Cliffs and Slumped Cliffs together make up a significant proportion of the Jurassic Coast World Heritage Site, which is also designated for its scenic beauty through the Dorset AONB.

PHYSICAL INFLUENCES

The sequence of geological formations between Lyme Regis and Swanage, representing the Jurassic and Cretaceous Periods, are some of the best exposed geological formations of this age in the World. There is a considerable range of geomorphological features, which include the Hard Rock Cliffs SCT. Distinctive features such as Lulworth Cove have formed as a result of near-vertical limestone forming a barrier to the sea whilst softer rocks behind have been eroded by river action up to the harder chalks to form the iconic near-circular bay. There are many significant and prominent headlands such as Durlston Head, St Alban's Head and Portland Bill, and prominent rock features such as Durdle Door which have formed as a result of the sequence of harder and softer rocks and differential rates of erosion.

Although more resistant to erosion, hard rocks such as chalk are porous and often overlay clays, for example, which when penetrated by water become mobile, resulting in landslips. Cliff top habitats can range from bare rock and earth to calcareous and maritime grasslands.

The beaches associated with the hard rock cliffs are often very narrow or non-existent or may be intertidal rock ledges. Generally the hard rock cliffs are associated with rural areas, except around Swanage, and are often inaccessible unless on foot or from the sea.

St. Oswalds Bay

CULTURAL INFLUENCES

Where the rock is a valuable building stone, such as the limestone of Portland (Portland Stone) and Purbeck (Purbeck 'marbles') they have often been quarried at the coast and from here moved on to ships or barges for transport around the world. In London, they have been used in the construction of many significant buildings including important landmarks such as St Paul's cathedral and other Wren churches, as well as used in decorative interiors. These rocks have been exploited for many centuries.

Agriculture is associated with much of the coastline where there are Hard Rock Cliffs and use of land for arable crops right up to the cliff top has often displaced the natural cliff top vegetation. Where grazing patterns have changed in grasslands there has also been a tendency for scrub invasion.

The coastline is very popular with walkers and the Dorset Coast path is continuous with the long distance South West Coast path. There can be considerable pressure especially with the popular walks to high points and there is evidence of erosion on many of the paths, especially on steeper slopes where the path climbs up from the coastal car parks, which are generally sited at low points close to beach access points.

The cliffs themselves, where suitable and accessible, are used for rock climbing. The paths above and beaches below the cliffs can attract walkers and when the weather is good these areas can be quite busy, even in winter.

AESTHETIC AND PERCEPTUAL QUALITIES

The height and colour of many of the Hard Rock Cliffs makes them significant landmarks. The ochre coloured sandstone cliffs at West Bay and the chalk cliffs, such as at Lulworth and in Studland Bay, are the most prominent and different light and weather conditions on the coast can change the perceptions of colour and scale. The limestone cliffs of Purbeck and Portland are also distinctive but because of their grey colour tend be less visible from long distances than the white cliffs.

High cliffs may be fenced for safety reasons, which can detract from the unspoilt qualities of the coast. The cliffs and associated beach areas, especially where sheltered, can be quite busy even in the winter. The eroded paths leading from car parks on to the Coast Path, which are often routed up steep slopes can be highly visible as scars on the landscape and detract from the relatively natural and unspoilt character of the coast.

SEASCAPE CHANGE AND MANAGEMENT

INFRASTRUCTURE

Forces for Change

Pressure to expand tourism facilities could result in the need to expand and improve local infrastructure and access to the coast.

Shaping the Future Seascape

The aim of future strategies for this SCT should be to **plan** and **manage** coastal infrastructure to ensure that any further coastal development is appropriate to the design and scale of existing settlement patterns and takes account of intervisibility with coastal and marine areas. The **planning** and **management** of access and parking will be important in determining use levels and to ensure future uses are compatible with the character of the SCT. Plans to reduce car dependence as a means of getting to the area should be implemented.

AGRICULTURE, LAND USE AND FISHERIES

Forces for Change

The cliff tops often support a variety of plant communities including some rare species. Changes to grazing patterns in adjacent grasslands can lead to scrub encroachment which could impact on cliff top vegetation, in the longer term, by influx of woody species. Additionally, migration of crop species down the cliff face can occur, and where vegetation can establish it was noted that rapeseed, for example, is often seen growing on cliff tops, where there are adjacent arable uses. This can change aesthetic characteristics of the vegetation and the habitat of the cliff tops.

Shaping the Future Seascape

The aim should be to **manage** and monitor cliff top vegetation to prevent arable species displacing the natural vegetation. Management of grassland habitats, such as chalk grasslands, should be encouraged in adjacent agricultural land through appropriate grazing to assist in maintaining cliff top habitats in natural condition.

TOURISM AND RECREATION

Forces for Change

Erosion on cliff tops, particularly on the steeper slopes, due to recreational pressures of walkers, is unsightly leaving bare tracks as scars and could also increase instability.

There is continuing pressure to expand tourism and leisure facilities along the coast. The landform in the cliff hinterland will largely determine where development could be located so as not to visually detract from the coastal seascape. As many of the hard rock cliffs are prominent landmarks and the hinterland behind often highly visible this is an important consideration in determining where new development can be sited to avoid impacting on these important views and landmarks.
Increased recreational pressure from walkers or others using the cliffs, for example climbing, could also disturb cliff top habitats or breeding bird colonies, especially where these species are sensitive to disturbance.

Shaping the Future Seascape

The aim should be to **manage** access to the cliff tops, on an ongoing basis. Where cliffs are actively receding, there should be regular checks for stability which may result in footpaths having to be re-routed further back for safety reasons. In other areas re-routings may be minor and temporary to assist with repairs to erosion and regeneration of grass and vegetation.

Any tourism and recreation development or infrastructure must be **planned** and sited with due regard to the aesthetic and perceptual qualities of the cliffs, hinterland and adjacent marine areas, where this may result in visual intrusion along the coast or detract from key characteristics.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Climate change may increase the intensity or frequency of storms or adverse weather events in the future and this could result in coastal squeeze. Adjacent beaches may be protecting the cliff base from wave action and thus coastal squeeze could lead to accelerated erosion.

In addition loss of beach area or access to cliff base may result in the reduction in recreational opportunities such as rock climbing and access to intertidal ledges.

Shaping the Future Seascape

Shoreline Management Plans (SMPs) should continue to be updated on a regular basis to take account of climate change and changes to coastal processes. The importance of the Hard Rock Cliffs SCT along this coast both as a feature, recreational resource and scientific resource should be taken into account in future revisions of the SMPs and the World Heritage Site Management Plan.

West Bay Cliffs

SCT 2E:
INTERTIDAL ROCK LEDGES

Kimmeridge Ledges

KEY CHARACTERISTICS

- Horizontal rock ledges within intertidal zone which may include loose rocks and boulders;
- Remote, often inaccessible locations;
- Varying levels of inundation depending on tides and location; and
- Important intertidal habitats.

SEASCAPE CHARACTER

The Intertidal Rock Ledges Seascape Character Type (SCT) occurs at the base of cliffs along a number of sections of the coast and consists of horizontal rock ledges within the intertidal zone (between Mean High Water and Mean Low Water), which have varying amounts of exposure depending on the tides. These beach areas tend to be narrow in width, with the exception of ledges between Kimmeridge and St Alban's Head, and, in addition to bedrock, can include large loose boulders and rocks which have been eroded from the slumped cliffs. In some places these loose rocks are regularly rectangular in shape, such as west of St Alban's Head. Many Intertidal Rock Ledges display classic rocky reef zonation in which the level of inundation determines the habitats on the ledges, with seaweeds occupying the more regularly inundated levels. Some important rock ledges continue out to sea, such as at Peveril Point, Kimmeridge and Portland Bill.

PHYSICAL INFLUENCES

The rock ledges that make up this SCT extend beyond the intertidal zone, gently shelving to the 20m depth contour lying at or more than 1.5km from the coast. However, around St Alban's Head depths of up to 55m have been recorded within 0.5km of the shore. The tidal range is small with a maximum spring tide range of only 2 metres. There is also an unusual double low water stand which exposes communities to extremes of temperature and light. This encourages algal diversity and presence of species (such as the brown seaweeds Padina pavonia and Asperococcus compressus) which normally occur further south and even in the Mediterranean range. A number of species are therefore of value in indicating any distributional changes which may be attributable to changes in sea temperature.

There is a diverse range of habitats including wave-cut platforms, rock pools, fissures, crevices and overhangs which provide ideal conditions for a diverse variety of littoral species, which are adapted to the cycle of immersion and desiccation as the tide comes in and then recedes. The upper shore area tends to be very limited and the middle shore is dominated by brown seaweeds. Encrusting coralline algae is exposed on the lower shore on extreme low tides or in rock pools.

CULTURAL INFLUENCES

Much of the Dorset coast is associated with smugglers and there are many stories about smugglers using the small rocky beaches around Kimmeridge and Osmington to land contraband.

The Rock Ledges are popular spots for climbing, especially at locations such as Dancing Ledge, where the cliffs have been quarried and provide easier access. Rock ledges can also be used for swimming and there is a natural swimming pool cut into the rock at Dancing Ledge, which was once used by local schools. Divers and snorkelers use many of the intertidal and subtidal rock ledges and reefs as there is rich marine biodiversity associated with these within the Coastal Waters.

Many other Intertidal Rock Ledges are, however, inaccessible or have very limited accessibility from land. This is because they are along stretches of the coast with high cliffs and few access points to the shore, and are often very narrow with most or all of the ledges inundated by the tide, depending on the time of year and weather conditions.

AESTHETIC AND PERCEPTUAL QUALITIES

The Intertidal Rock Ledges are an integral part of much of the rural coastline of Dorset and occur intermittently along quite long stretches of the Purbeck coast. They are a continuation of rock planes that are integral to the cliffs and extend well out into the sea in places. There are very distinctive rectangular boulders deposited on some of the ledges from cliff erosion, notably west of St Alban's Head. Diversity and interest is further enhanced with rock pools and crevices. These Intertidal Rock Ledges are generally inaccessible, with some notable exceptions such as at Dancing Ledge. Where there is good access from the land it can get quite busy as these areas offer various recreational opportunities such as rock climbing, sunbathing, swimming and coasteering.

SEASCAPE CHANGE AND MANAGEMENT

AGRICULTURE, LAND USE AND FISHERIES

Forces for Change

There is rich marine biodiversity associated with the rock ledges and this is exploited by potting and shellfish harvesting within coastal waters. The visual effects of an expansion in aquaculture, which may include additional boats congregating or more surface floats may affect the character of the coast. Marine litter is a significant detractor along beaches and in coastal waters. This is derived from offshore shipping and fishing activity as well as litter from terrestrial sources, and can pose a threat to wildlife as well as visual amenity.

Shaping the Future Seascape

Marine litter and pollution is a continuing issue and threat to beach and water cleanliness so initiatives to reduce, collect and dispose of marine litter should continue to be implemented.

Any increase in aquaculture should be **managed** to take account of the visual impacts on coastal character types.

TOURISM AND RECREATION

Forces for Change

Recreation on rocky shores may affect the biota due to trampling and collection.

There is potential for adverse effects to biota caused by educational collecting by schools and students. Erosion may also be an issue due to increased pressures from recreational activities.

Shaping the Future Seascape

The aim should be to **manage** access to the rock ledges by groups such as divers and students through education and codes of practice to ensure that the habitat is not trampled or over-collected.

The **planning** and **management** of access and parking in adjacent land areas will be important in determining and controlling levels of activity on rock ledges and will assist in protecting the key characteristics of the SCT.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Climate change is likely to cause an increase in the intensity or frequency of storms and adverse weather events which could increase levels of erosion.

Changes to sea level may result in inundation of the ledges more frequently or permanently and this could in turn affect the temperature and light exposure regimes which have shaped the current communities resulting in altered zonation patterns. It may also result in reduction in the extents of beach area, which may expose cliff bases to greater wave action and therefore erosion. Ledges could also be lost for any recreational activities.

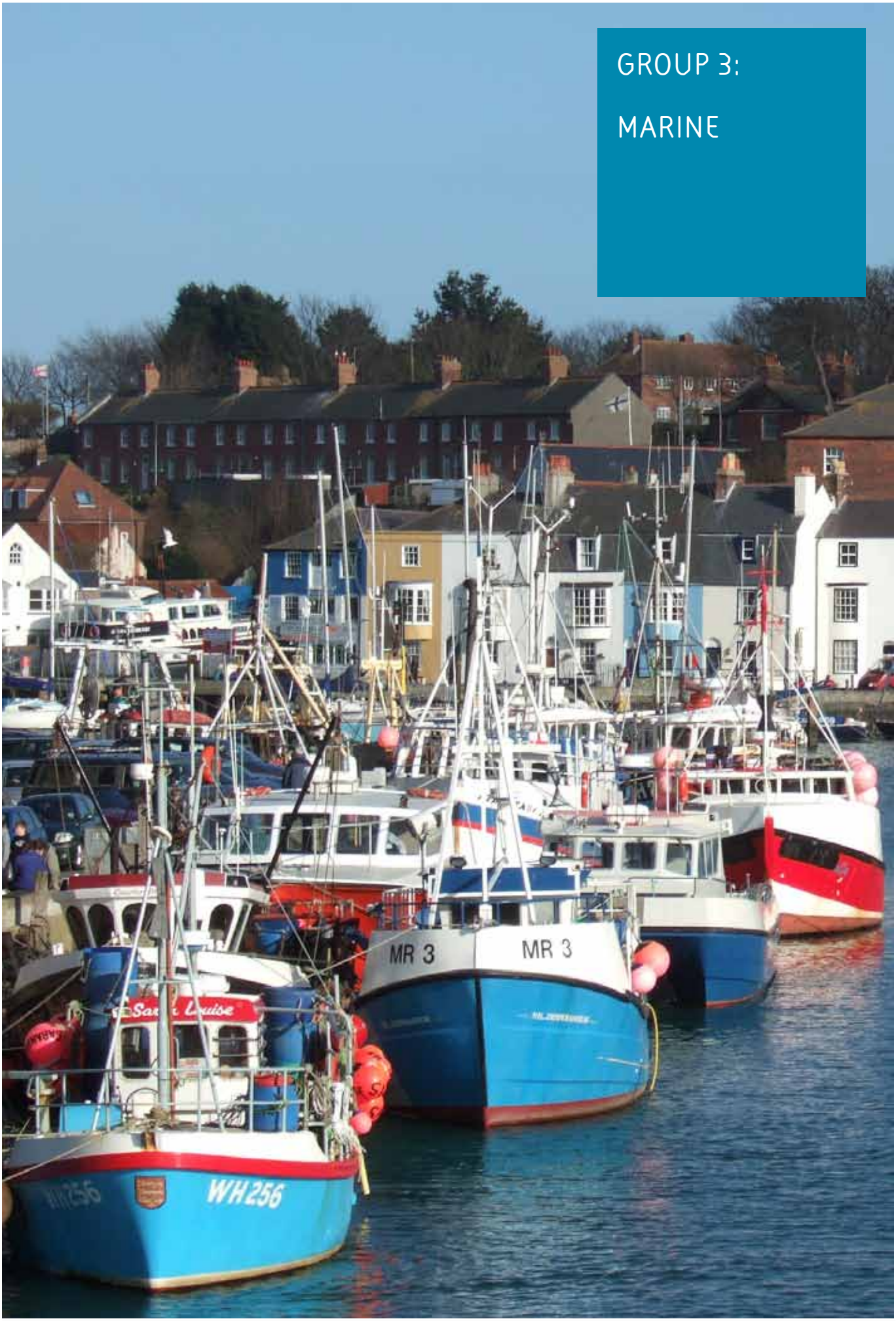
Shoreline Management Plans for the rural parts of the coast where the Rock Ledge type generally occurs generally advocate NAI (no active intervention).

Shaping the Future Seascape

Shoreline Management Plans should continue to be updated on a regular basis to take account of climate change and changes to coastal processes. The importance of the Intertidal Rock Ledges SCT along this coast, as a feature, recreational resource and scientific resource, should be taken into account in future revisions of the SMPs.

GROUP 3:

MARINE



Weymouth Harbour courtesy of DCF

SCT 3A:
MAN-MADE HARBOUR

Portland Harbour

KEY CHARACTERISTICS

- Large area of deep water enclosed by man-made sea wall;
- Important habitats and biodiversity;
- High intensity of port activities including commercial shipping, naval vessels, cruise ships;
- High intensity of water-based recreational activities including watersports, sailing and diving;
- Important shellfish fisheries;
- Very large protected and sheltered expanse of water;
- Associated extensive land based activities and industries; and
- Important setting for Portland and Weymouth.

SEASCAPE CHARACTER

The Man-Made Harbour Seascape Character Type (SCT) comprises the enclosed deep water Portland Harbour which is also important in providing a setting for Portland and Weymouth. It comprises a large expanse of water enclosed by a man-made harbour wall which dates back to the 1840s. It is also enclosed on the west side by the stabilised shingle spit at the western extent of Chesil Beach which forms the causeway linking the mainland to the Isle of Portland. A shallow beach forms the western edge against the causeway and this shoreline supports important Biodiversity Action Plan (BAP) habitats and species. The Harbour is characterised by intensive uses ranging from commercial shipping, naval vessels and cruise ships to recreational activities including sailing, watersports and diving as well as small fishing boats exploiting the shellfish resource. The Harbour is a refuge for small ships seeking shelter from strong winds and storms, especially in winter, as well as providing an important recreation resource. This includes hosting the sailing events for the 2012 Olympics at the Weymouth and Portland National Sailing Academy, located on its southern side.

The adjacent land associated with the Harbour is reclaimed land while the cliffs and high points, forming the wedge shape on the northern end of the Isle of Portland, tower above the Harbour. Much of this enclosing topography is built up and has been shaped and re-shaped, especially the upper slopes, to accommodate underground and above-ground military infrastructure.

PHYSICAL INFLUENCES

The Harbour wall encloses this deep water tidal basin which is up to 20 m deep, has limited tidal exchange and a very small tidal range of 1.5 – 2.5 m with a double low-water stand. The Harbour is strongly associated physically and visually with Portland and Weymouth, with Chesil Beach forming the distinctive western edge. Sections of the enclosing harbour walls were constructed in local stone in the 1840s and added to over many years including structures and buildings on the wall, some of which are listed. Many of these structures appear derelict. The construction of the Portland Harbour breakwaters has removed any dynamic adjustment between the coastline and Chesil Beach and has also substantially reduced erosion of the Portland cliffs. It has also affected the hydraulics of Weymouth Bay, for example accelerating the erosion of Preston Beach, mainly due to wave action generated by south east gales. The Fleet Saline Lagoon drains, via a regulated outlet, into the Harbour and this also provides physical access for small boats into the Fleet. The limited beaches in the south of Portland Harbour are composed of gravels of Portland and Purbeck limestone formed by erosion of the coastal slopes, prior to construction of the Harbour. The former sandy beach at Smallmouth has been smothered by silts.

The restricted water exchange leads to elevated water temperatures which accounts for the presence of several marine species beyond the typical northern limits of their range. The Harbour accommodates marine habitats as well as a small area of intertidal habitat on the northern and western shores. It supports an ecosystem of high importance for biodiversity, including a number of nationally important habitats and species, as well as providing habitat for seabirds, including migratory species. The Harbour is also designated as EU shellfish water and supports an important shellfish fishery.

CULTURAL INFLUENCES

The waters off the Dorset coast have been used for fishing, transport and trade from earliest times, with Portland and Weymouth Bay providing safe anchorage dating back to Roman and Saxon times. The area has also had a long association with naval activities including the Armada, the Civil War and the two World Wars. The harbour was enclosed in Victorian times to enhance shelter from south easterly gales adding to the protection already provided by Chesil Beach from the prevailing south westerly's. Following the advent of ships powered by coal and oil, Portland became an important refuelling and revictualling harbour. The first two breakwaters were added to when torpedoes were developed, necessitating further protection from this form of attack. Torpedoes and submarine development were undertaken at Portland from the 1890s onwards. The long association with the navy continued throughout the two World Wars and Portland became an important front line harbour after the fall of France and suffered from many enemy air attacks. In 1944 it was the embarkation port for thousands of American servicemen on their way to the D-Day landings at Omaha beach. After the war the Harbour became a sea training facility and the Special Services still use it for this purpose. In 1996 the navy withdrew from the Harbour, and a Harbour Revision Order handed jurisdiction to a private company, Portland Port Ltd. The company has successfully expanded its commercial activities and there are plans to further develop facilities, whilst maintaining a balance with other sectors and uses.

The harbour also provides a bunkering facility and shipyard. The protected waters are used intensively for sailing (the National Sailing Academy is set to host the Olympic sailing events at Portland). Other watersports are also popular, including diving.

AESTHETIC AND PERCEPTUAL QUALITIES

Portland Harbour and the backdrop of the Isle of Portland are significant landmarks of the Dorset and South Coast of England. The walls which define the Harbour have a distinctive geometry and the large extent of the Harbour makes it readily recognisable and impressive. Although the harbour wall is low it can be seen for long distances when the sea is calm and at times of good visibility. The Harbour itself is dominated by the high Portland cliffs that form the backdrop to the south.

The Harbour is busy with a range of activities and boat sizes, ranging from commercial shipping, naval vessels and cruise ships to small power boats, sailing boats and wind surfers. There are moorings within the harbour as well as extensive land based development associated with the marine activities. The harbour wall itself has historical associations but also includes a range of derelict buildings and structures.

SEASCAPE CHANGE AND MANAGEMENT

INFRASTRUCTURE

Forces for Change

There are plans to expand the commercial activities of the Port including reclamation of land to accommodate more land based facilities. The aim of Portland Harbour Ltd is to develop the Port as a Centre of Excellence for Marine Industries. Recent upgrading of infrastructure and the built development around the Harbour, including the National Sailing Academy has improved the quality of the built environment.

Portland Harbours' stable intertidal communities would be threatened by any long term deterioration of the existing breakwaters.

Shaping the Future Seascape

Any new development should be **planned** to improve the character, layout and architectural quality of land based facilities around the Harbour and take account of visual impact on adjacent land areas such as the upper reaches of Portland and other coastal areas.

Where reclamation of land is envisaged to accommodate new development, the likely impacts on the important habitats within the harbour must be assessed to ensure that these are **protected**. This must include any changes to coastal processes as the types of habitat and species present are intrinsically linked to tidal regimes and water clarity for example. Breakwaters should be **managed** to ensure that their integrity is maintained. This would not only ensure that they do not present a hazard to navigation but will also help to protect biodiversity.

Any development affecting the breakwaters should take account of the characteristic geometry of the breakwaters.

AQUACULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

Pollution and marine litter from activities within the Harbour is a potential threat to all activities, fisheries and biodiversity within the Harbour. Aquaculture, in particular shellfish, is a valuable resource within the Harbour. The most visible manifestation of this is the numerous orange floats that hold up the aquaculture lines. Any changes in aquaculture methods and types could impact on the open character of the Harbour or important and sensitive habitats and result in further surface clutter from floats.

Shaping the Future Seascape

The aim should be to **manage** marine litter and any potentially polluting activities within the Harbour, to ensure protection of marine habitats and recreational activities.

Aquaculture should be **managed** to take account of the character of open water in the Harbour and to protect key sensitive habitats. A change in the colour of floats could also help to reduce the visual intrusion.

TOURISM AND RECREATION

Forces for Change

Any further tourism or recreation development adjacent to the Harbour, may impact on views from adjacent high points and coastal and marine areas with views to the Harbour.

The growth of commercial activities could detract or displace the important sailing and watersports activities that occur within the Harbour and in Weymouth Bay.

Removal of derelict elements and redundant infrastructure can visually improve the character of the Harbour wall and this also offers potential to improve the setting of listed structures and restore any historic features which may be of interest.

Shaping the Future Seascape

The aim should be to **plan** and **manage** development to ensure that it takes account of views to and from the Harbour and also achieves a balance between commercial and recreational development within the Harbour. Any changes to the Harbour wall should be **planned** to improve visual quality whilst **protecting** and enhancing any historic features and their setting.

ENERGY PROVISION

Forces for Change

The Portland gas storage project, the development of the West of Wight wind farm area off the Dorset coast and any development of the tidal power resource off Portland may result in additional land based infrastructure being developed within and around Portland Harbour. This may require land reclamation to accommodate the necessary infrastructure.

Shaping the Future Seascape

Siting of land based development within the Harbour associated with energy projects and how this comes onshore must be **planned** and **managed** to take account of the prominent location of the Harbour, and its visual relationship with Portland and Weymouth Bay.

Where further reclamation of land is envisaged to accommodate new development, the likely impacts on the important habitats within the harbour must be assessed to ensure that these are **protected** and mitigation measures considered where appropriate. This must include any changes to coastal processes as habitats are intrinsically linked to sediment patterns.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Climate change may result in sea level rise which could impact on low lying activities around the harbour, which would be highly susceptible. This may result in further flood defences being required to prevent inundation.

Land reclamation, in order to expand land based development, may change the character and footprint of open water and impact on seabed and habitats.

Changes in sea level as a result of extreme weather events could threaten the man-made sea wall resulting in a need to reinforce and strengthen it.

Shaping the Future Seascape

Flood defences should be **planned** to take account of the visual characteristics of the Harbour wall and shoreline as well as the large expanse of open water it contains.

Flood defences should be **planned** and **managed** through the relevant Shoreline Management Plans or Harbour Management Plans and should take account of marine ecology, the considerable recreational value of the Harbour, its visual characteristics as well as safety and commercial interests.

SCT 3B:
COASTAL WATERS

View towards Chalk Cliffs near Lulworth

KEY CHARACTERISTICS

- Shallow waters up to 30 metres deep;
- Sheltered or moderately sheltered coastal waters;
- Underlain by complex superficial sediments over bedrock;
- High importance for marine biodiversity with varying levels of statutory protection;
- Low level of activity from, often seasonal, sailing and watersports;
- Valuable fishing activity - includes potting and shellfish - generally small boats, both private and commercial;
- Strong visual and physical relationship with the undeveloped, rural coastline;
- Coastal interface largely rural, protected landscapes of high scenic quality; and
- Generally tranquil with dark skies (due to lack of light pollution) from adjacent land areas.

SEASCAPE CHARACTER

The Coastal Waters Seascape Character Type (SCT) comprises two stretches of coastline associated with the rural, often inaccessible areas of the Dorset coast, within Lyme Bay to the west of Portland, and between White Nothe and Durlston Head, along the Purbeck coast, to the east of the Isle of Portland. These areas are strongly associated with the coastline which is noted for its scenic beauty and scientific value, recognised through its World Heritage Site status and designation as an Area of Outstanding Natural Beauty (AONB). The associated coastline varies with the areas to the west of Portland being more exposed. The sweeping coastline of Lyme Bay forms the backdrop, and includes slumped cliffs, a short section of prominent sandstone cliff at West Bay, and the unique shingle ridge of Chesil Beach, which is backed by gently inclined Coastal Grasslands. The beaches are largely shingle of various sizes, which tend to be graded along the coast, with occasional sand deposits. In contrast to Lyme Bay, the SCT east of Portland lies within the shelter of the Isle of Portland Limestone Peninsula, and is also strongly associated, both visually and physically, with the coast. This section of coast largely consists of prominent chalk or limestone cliffs together with vegetated slumped cliffs. These end abruptly at the coast and contain views within a relatively narrow coastal strip, as the cliffs often form high points or are close to ridge tops. Here the intertidal area is often very restricted either consisting of a narrow shingle beach or intertidal rock ledges or no beach at all. These are often inaccessible.

The Coastal Waters SCT is underlain by a complexity of marine sediments with rich and varied marine communities and activities within the type are based on this diversity with smaller boats engaged in potting and shellfish harvesting which may be at a commercial or recreational scale.

Due to the largely rural land interface the area has an intrinsic tranquillity and dark skies with little light pollution at night time from the land.

There are many distinctive and iconic landmarks on this coastline include the sweeping lines of Chesil Beach and the ochre sandstone cliffs at West Bay in Lyme Bay, the much photographed circular bay at Lulworth Cove, the rock formations of Durdle Door and headlands of Portland Bill and its peninsula, St Alban's Head and Durlston Head. The white chalk cliffs are highly visible from long distances and the vertical limestone cliffs of Purbeck and Portland are also prominent. These all provide compelling images of the Dorset Coast. Within the SCT, St Alban's Ledge and the Lulworth Banks are key underwater features with the race over St Alban's Ledge also influencing the course that smaller boats take, diverting them away from the shore to beyond the race.

PHYSICAL INFLUENCES

The Coastal Waters vary from 0 – 30 m in depth, but predominantly ranging from 20- 30 m with the shallowest waters restricted to a narrow band against the coast averaging 800 m to 1.5 km wide. The seabed falls away from the coast most steeply at the eastern end of Chesil Beach and around Portland. There are some exceptionally deep areas just off Portland Bill which descend to nearly 200 metres.

The coastal waters have a complex range of superficial sediments ranging from shallow, coarse and mixed deposits to fine sands. These are exposed, in varying degrees, to weak to moderate tide stress and are underlain by vertical and horizontal bedrock, which can become exposed by scouring. Exposed bedrock is particularly characteristic between White Nothe and Durlston Head. These complex environments support diverse and rich communities, including bivalves crustacea, polychaetes, Sabellaria reefs and sponges and anemones. In the fine sand sediments which occur in tide swept channels the communities also include echinoderms, polychaetes and diverse bivalves. In shallow bedrock and boulder areas, such as around Lulworth Cove and Durdle Door there are also kelp beds and seaweeds which also support a diverse fauna.

The marine environment in these areas is of high ecological value with many important habitats. The Lyme Bay and Torbay candidate Special Area of Conservation (cSAC), which includes parts of the SCT, has been selected for its Annex 1 Reef Habitat. Any pollution of these shallow waters either from terrestrial or marine sources would threaten water quality and the health of these sensitive marine habitats. As with all waters, there is potential for mobile fishing gear, and anchoring boats, to damage the seabed or its communities.

The coast provides important nesting sites for seabirds, especially along the cliffs in the least accessible areas, and St Alban's Head is an important landfall for migrating birds.

CULTURAL INFLUENCES

Evidence of human activity dates back to Late Palaeolithic/Early Mesolithic times when much of the area, which is now coastal waters, would have been dry land and where early communities may have established seasonal camps exploiting inland and offshore hunting and gathering grounds. The Doris datasets reveal visible evidence of river courses in the sea bed, prior to inundation of the river valleys due to sea level rise following the Ice Age. As the coastline receded these areas became rich fishing areas and today the SCT is mainly exploited for line fishing, potting and shellfish. Small boats frequent the area and there is also angling from the shore. These coastal fisheries are of significant commercial and recreational value.

The shingle beaches west of Portland and the high cliffs eastwards to Durlston Head are not recreational 'honeypots' in the way that the sandy beaches close to urban areas are, but nevertheless attract numerous walkers and those in search of rural pursuits to many of the coastal areas, especially the high points. Views to the sea and along the coast are, therefore, particularly significant to these users. However access is restricted and controlled due to lack of a coast road. The narrow lanes provide only limited vehicle access along large stretches of the coast, with parking provision also being on a small scale and subject to charges. Coach access is prohibited along some of the narrow roads. Pedestrian access is largely provided by the Dorset Coast Path which forms part of the long distance South West Coastal Path. This runs along the entire length of the Dorset Coast and links to the coast of adjacent counties of Devon and Hampshire.

The SCT also has a long history of trade and navigation based around the safe havens of Portland, Weymouth Bay, Poole Harbour and Lyme Regis. There has also been a military presence in the area for centuries with limited naval and training activity still occurring around Portland. Military activities place restrictions on use of some parts of the SCT such as the eastern end of Chesil Beach and seaward of the Lulworth Ranges which extend into the coastal waters. The Lulworth Ranges, in particular, result in boats having to divert offshore to avoid the mortar testing area and they also restrict access to the coast and large tracts of land. The Range activities are also noisy, when in session, with intermittent booms and noise of tanks.

There are numerous submerged wrecks along the coast which are popular shallow water dive sites, as are the rocky reefs.

AESTHETIC AND PERCEPTUAL QUALITIES

The Coastal Waters SCT is a visually dynamic seascape encompassing views to the dramatic Dorset coastline and further inland, although the terrestrial high points and ridges are often close to the coast restricting the visual relationship between the coast and marine areas to a relatively narrow strip. There are also extensive views along the coast and out to sea with the Isle of Portland being a significant landmark as well as the vertical chalk, limestone and sandstone cliffs of the adjacent parts of the Dorset coast. Due to the largely rural nature of the adjacent coastline there is a sense of tranquillity and remoteness with views to land being dominated by relatively unspoilt and undeveloped agricultural land, which often appears exposed.

The character of this seascape is significantly influenced by the seasons, light and weather conditions. Activity is also temporal and during the summer months there is substantially more activity from small boats. The prevailing weather conditions at any one time also determine the numbers of boats in the area from day to day. In parts of the coastal waters there may be buoys, floats or markers at the surface demarcating, for example, channels, mussel beds or pots, dangerous wrecks and rocks, and swinging moorings.

Boat activity and recreational activities along the coast are much reduced in the winter months and this is also affected by stormy and adverse weather conditions as the coast is relatively exposed to prevailing weather systems.

These areas also support significant bird populations which can be observed nesting on cliffs and feeding in the sea along the quieter and wilder parts of the coast, providing opportunities for bird watchers. The rich waters also provide regular dolphin sightings and occasionally whales and seals are seen. Trips to spot these larger marine mammals are a popular activity.

SEASCAPE CHANGE AND MANAGEMENT

INFRASTRUCTURE

Forces for Change

There is very limited infrastructure development along the Dorset coast adjacent to the Coastal Waters SCT, due largely to limited access potential with the significant topographical barriers provided by cliffs and shingle beaches. There are only small and sparsely scattered settlements along much of the coast associated with the SCT and very few seaside harbours or havens which mainly occur towards the western end of Lyme Bay, which provide access to boats. Any further opening up of access or harbour expansion could visually intrude and detract from the unspoilt and tranquil nature of this coast and associated coastal waters.

Mineral extraction such as for oil, quarrying and aggregates has occurred on various stretches of the associated coast and has had a significant impact on the landscape and seascape of the Isles of Portland and Purbeck, where the scars of quarrying are often evident from coastal waters. Quarrying occurred in the limestone cliffs, such as at Dancing Ledge on Purbeck and on many areas on Portland including at the Bill, and the stone was transported away by sea. Quarrying still occurs extensively on Portland whereas it is now very limited on Purbeck.

Shaping the Future Seascape

The aim of future strategies for this SCT, and the views to the closely associated coastal land areas, should be to **protect** the significant coastal features and to continue to **manage** coastal infrastructure to ensure that any further development is appropriate to the design and scale of existing settlement patterns and to ensure that this does not detract from the numerous and iconic landmarks and panoramic views. The **planning** and **management** of access to the coast and coastal waters will be key to **protecting** the intrinsic perceptual qualities.

Any further expansion of oil extraction or quarrying should be carefully **planned** and **managed** to ensure that it does not significantly detract from the semi-natural character of this coast and its associated waters and would need to be carefully sited with due regard to access and visual/perceptual issues.

AQUACULTURE, LAND MANAGEMENT AND FISHING

Forces for Changes

Marine litter is a significant detractor along beaches and in coastal waters. This is derived from offshore shipping and fishing activity as well as litter from terrestrial sources, and can pose a threat to wildlife as well as visual amenity.

Pollution from land and sea based activities could pose a significant threat to sensitive coastal habitat and the beach environment as well as affecting the turbidity of the coastal waters which would have a significant visual impact. It is important to control and monitor effluent discharge into rivers and along the coast as well as to encourage good land management practices to control run off from agricultural land.

Better technology, changes in fisheries control and increased economic demand could result in more aquaculture development.

In addition fishing restrictions as a result of the ratification of Marine Conservation Zones may affect fishing patterns and activities. The visible effects may be changes to types and numbers of boats in these waters, more buoys visible on the water surface and temporal shifts in usage.
As with all waters, there is potential for mobile fishing gear, and anchoring boats, to damage the seabed or its communities.

Other changes may result due to the Marine Planning process or, for example, reforms to the fishing industry from The Common Fisheries Policy review in 2012.

Shaping the Future Seascape

Marine litter and pollution is a continuing issue and management initiatives to reduce, collect and dispose of marine litter should continue to be implemented and updated. Pollution control measures, which currently operate, should continue to be updated and reviewed together with plans to deal with any significant pollution events such as coastal shipwrecks and oil spills.

The implementation of the Marine and Coastal Access Act, 2009, will result in Marine Conservation Zones (MCZs) being designated, which will be subject to management plans and it is likely that the coastal waters of Dorset, their fisheries and fishing practices will be affected by these proposals, with the potential for recreational activities to also be **managed**. Seascape character should be taken into account when drawing up management plans.

TOURISM AND RECREATION

Forces for Change

Increase in recreational activities such as motor boats, sailing boats and watersports could impact on the rural landscapes associated with this coast. To an extent this type of recreational activity is naturally restricted at present due to the limited access to the coast and the limited flat beach areas. During consultation it was noted that activities such as windsurfing at Kimmeridge Bay have increased considerably, to the extent that, in their view, this is no longer pleasurable due to overcrowding. Any upgrading of access and infrastructure has the potential to open up areas to tourism and recreation activities and should be carefully evaluated to ensure that the intrinsic qualities of these coastal waters and associated coastal land areas are protected.

Where recreational boats anchor there is potential for damage to occur to the seabed and habitats, so any changes to popular anchorage areas need to be evaluated and managed as necessary.

Tourism developments such as holiday parks, housing and supporting facilities could impact on visual and perceptual qualities of the coast and associated coastal waters. The coastal strip is often highly visible from some distance from both land and marine areas and so the extent and scale of any further coastal development needs to be appropriate and take account of these views and potential impacts on aesthetic and perceptual qualities.

Shaping the Future Seascape

The aim of future seascape management within this SCT and the closely associated coastal land areas should be to continue to **plan** and **manage** coastal development to ensure that the intrinsic perceptual qualities of this coast are maintained and that activities continue to be in balance with the semi natural, remote and rural nature of this part of the coast.

New development should be **planned** in areas where it is least visually intrusive and damaging to land and seascape character and the natural environment. Access pressures and the loss of natural habitat should also be **managed** through the use of management plans to ensure those areas most sensitive to recreational pressure are avoided.

Recreational activity and access should be **managed** to ensure that the intrinsic perception of quietness and remoteness is maintained. Mechanisms including 'no fishing' zones, such as the one implemented in Lyme Bay, which may be effective on a voluntary basis, and restrictions or limits on numbers of boats used for watersports, including powerboats, should be considered where these are observed to be adversely affecting the key characteristics of the SCT.

Restrictions on light aircraft and helicopters low flying over quieter areas should form part of any management plans.

ENERGY PROVISION

Forces for Change

The West of Wight offshore wind farm area lies offshore of the eastern part of this SCT. 30% of this zone could be developed, although the exact location of turbines is currently unknown. Construction is currently expected to commence in 2016, and to be completed in 2018. This could be visible from this SCT.

Shaping the Future Seascape

Any offshore wind farm proposals should be assessed through a comprehensive EIA process to determine the optimum location for the turbines within the proposed sea area on the basis of predicted impacts and this should take into account effects on seascape character, including that of the affected seascape type and any adjacent SCTs and Landscape Character Types. A visual impact assessment should also be undertaken to determine impacts on key viewpoints and receptors.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Climate change predictions suggest that increased storminess and extreme weather events may affect coastal waters throughout the UK and average water temperatures are forecast to rise. The effect of this may be to alter coastal processes, biodiversity and habitats and hence the usage patterns and types of fishing taking place within coastal waters. It may also affect the temporal patterns of use of coastal waters.

Coastal erosion may also release more sediments to the sea or alter the line of the coast. Again this may affect species distribution.

Any coastal defence policies need to take account of the semi natural unmanaged character of this part of the coast whilst recognising the need to defend vulnerable urban areas and infrastructure.

Shaping the Future Seascape

Management plans for the marine resource is important for balancing commercial and recreational fishing with the maintenance of biodiversity and healthy ecosystems, and these should be regularly updated to respond to changing climatic and economic conditions.

Shoreline Management Plans should be updated on a regular basis to take account of climate change, changes to coastal processes and the character of the Coastal Waters SCT. Evaluation of the visual and perceptual impacts of coastal management should be integral to any such management plans.

SCT 3C:
ACTIVE COASTAL WATERS

View of Weymouth Bay

KEY CHARACTERISTICS

- Coastal shallow waters of mainly 0-30 metres deep;
- Sheltered coastal waters;
- Underlain by complexity of superficial sediments over bedrock;
- High importance for marine biodiversity;
- High level of activity, often seasonal, from recreational sailing and other watersports;
- Valuable fishing activity - includes potting, shellfish and mussel beds – generally small boats, both recreational and commercial;
- Dredging deposition areas;
- Mineral deposits – hydrocarbons;
- Strong visual relationship with the coastline and urban areas;
- Often associated with important recreational beaches close to main centres of population;
- Coastal interface largely urban or populated; and
- Generally less tranquil with higher levels of light pollution from adjacent urban areas.

SEASCAPE CHARACTER

The Active Coastal Waters Seascape Character Type (SCT) comprises areas along the Dorset coast east of Portland within Weymouth Bay and Poole Bay and adjacent to the Coastal Waters SCT east of Portland, which itself lies adjacent to the rural Purbeck coast. These waters are strongly associated with the coastline within Weymouth Bay and Poole Bay and, although slightly more physically removed adjacent to the Coastal Waters SCT, have strong visual links with the coastline, even when not directly abutting it.

The coastline which the SCT directly abuts includes most of the main towns on the Dorset coast including the interface with the extensive beaches of Bournemouth and Poole, Swanage and Weymouth. Together with Portland Harbour, these towns also provide the main harbours for all sizes of commercial and recreational fishing, sailing and pleasure boats and cross channel ferries. Portland also provides port facilities for cruise ships, freight and some naval vessels. The numbers and types of these vessels within the Active Coastal Waters type are influenced by weather, tides and seasons. Weymouth Bay also provides safe anchorage areas during adverse weather conditions.

The Active Coastal Waters are underlain by a complexity of marine sediments with rich and varied marine communities. Fishing activities within the type are based on this diversity and is of considerable commercial value. Small to medium sized boats are mainly engaged in potting and shellfish harvesting which may be at a commercial or recreational scale. The distribution of such activities varies with some key 'hotspots', such as the Shambles Bank off Portland, where many boats may congregate to fish at any one time. Due to the interface with most of the coastal towns, and the associated activity that this generates, the type is generally less tranquil and, depending on proximity to the towns, there is a gradation of light pollution, which is at its most significant in Poole Bay and Weymouth Bay.

The landmarks within this SCT are provided by the chalk and limestone cliffs of the Purbeck and Lulworth coastline, and the chalk cliffs and headlands at Durlston Head and Handfast Point including Old Harry's Rocks, which are reminiscent of the Needles, off the west coast of the Isle of Wight. The long sandy beaches of Poole Bay are also significant as is Hengistbury Head, which is a headland in an otherwise low lying coastline. Significant underwater features include the Shambles bank and races off the south east of Portland, which strongly influence fishing boat activity. In addition the more extensive shallow waters within Poole Bay also influence boat movements, especially the larger ferries and ships as does the Christchurch Ledge which restricts the size of boats able to use Christchurch Harbour.

Weymouth Bay

PHYSICAL INFLUENCES

The Active Coastal Waters mainly vary from 0-30m in depth, but are up to 40m deep in places further offshore. Poole Bay tends to shelve much more gently with more extensive areas of shallow water between 5 and 20m extending out to around 10 km from the coast.

The Active Coastal Waters have a complex mix of superficial sediments ranging from shallow, coarse and mixed deposits to fine sands with varying exposure to weak to moderate tide stress and underlain by bedrock, which may become exposed by scouring. These support diverse and rich communities, including bivalves and crustacea, polychaetes, Sabellaria reefs and sponges and anemones. In the fine sand sediments which occur in tide swept channels the communities also include echinoderms, polychaetes and diverse bivalves. In sheltered areas such as Weymouth Bay and Swanage Bay there are infralittoral rock areas which support seaweeds and kelp with their associated diverse communities. In contrast the strongly tidal swept narrows and straits support only the most robust communities of hydroids, barnacles, anemones and sponges. The race off Portland is generally avoided by boats. The Shambles Bank is a significant sandbank of coarse sand sediments up to 20m deep.

Any pollution of these shallow waters either from terrestrial or marine sources would threaten water quality and the health of these sensitive marine habitats. As with all waters, there is potential for mobile fishing gear, and anchoring boats, to damage the seabed or its communities.

Poole Bay and Poole Harbour are of international importance for migrating and overwintering birds.

CULTURAL INFLUENCES

Evidence of human activity dates back to Late Palaeolithic/Early Mesolithic times when much of the area which is now coastal waters, would have been dry land and where early communities may have established seasonal camps exploiting inland and offshore hunting and gathering grounds. The Doris datasets reveal visible evidence of river courses in the sea bed prior to inundation of the river valleys due to sea level rise following the Ice Age. As the coastline receded these areas became rich fishing areas and today the SCT is mainly exploited for line fishing, potting and shellfish. These coastal fisheries are of significant commercial and recreational value.

The SCT also has a long history of navigation and trade based around the safe havens of Weymouth Bay and Poole Bay and Poole and Christchurch Harbours. There has also been a military presence in the area for centuries with limited naval and training activity still occurring around Portland. There was significant World War II activity in and around Poole Harbour with training for D-Day being undertaken at Sandbanks.

The Sandy Beaches associated with the coastal towns of Bournemouth, Poole, Sandbanks, Studland and Weymouth are significant recreational beaches which also generate surfing, windsurfing and inshore sailing activity within the SCT. The 2012 sailing events for the Olympics will be held in Weymouth Bay and Portland Harbour and the Portland and Weymouth National Sailing Academy generates many sailing events in Weymouth Bay.

The cross channel ferries use Weymouth and Poole harbours and these bring relatively large boats into the SCT. In addition many ships were noted lying off in Weymouth Bay or going in and out of Portland Harbour. An area of Weymouth Bay is also designated as a safe anchorage site during adverse weather conditions. As a result of all the boating and shipping activity, the SCT is active and busy although this is influenced, as with all coastal activity, by season, tides and weather conditions.

AESTHETIC AND PERCEPTUAL QUALITIES

The Active Coastal Waters SCT is a visually dynamic seascape encompassing views to the dramatic Dorset coast and further inland, although the terrestrial high points and ridges are often close to the coast restricting the visual relationship between the coast and marine areas to a relatively narrow strip. There are also extensive views along the coast and out to sea with the Isle of Portland being a significant landmark on the western edge of the type as well as the vertical limestone and chalk cliffs of the adjacent parts of the coast. This type also has a strong physical relationship with the coast in Weymouth Bay and Poole Bay and the SCT feels relatively sheltered being enclosed on the western edge by the Isle of Portland and within Poole Bay by the headlands and cliffs of Durlston Head and Handfast Point. This SCT also has a strong relationship the County's Sandy Beaches which are important tourist destinations and are generally associated with the main urban areas.

The character of this seascape is significantly influenced by the seasons, light and weather conditions.

Activity within this SCT ranges from small to medium size fishing boats which may be recreational or commercial, sailing and power boats, and larger ships including cross channel and high speed ferries, freight and cruise ships as well as naval vessels using Portland Harbour. The effect is that the SCT tends to appear busy although this activity is to an extent temporal with less small recreational boats in the winter months. The number of boats is also affected by adverse weather conditions and, although smaller boats will reduce, there may be an increase in larger boats sheltering, especially within the Weymouth Bay safe anchorage. As well as congregations of boats, the coastal waters within this SCT are often characterised by the presence of numerous buoys, floats or markers at the surface demarcating, for example, channels, bathing areas, speed restrictions, mussel beds or pots, dangerous wrecks and rocks, and swinging moorings.

These areas also support significant bird populations which can be observed nesting on cliffs and feeding in the sea, providing opportunities for bird watchers. Poole Harbour is an important overwintering and migratory stop off point, so there can be significant bird movement across these waters. The rich waters also provide regular dolphin sightings and occasionally whales and seals are seen. Trips to spot these larger marine mammals are a popular activity.

Windsurfers courtesy of DCF

SEASCAPE CHANGE AND MANAGEMENT

INFRASTRUCTURE

Forces for Change

Shipping

Increases in larger ships lying off or entering harbours at Poole and Portland have visual impacts on coastal towns and rural land areas which are important tourist destinations. With the expansion of Portland Harbour, Weymouth Bay could become even busier, affecting aesthetic qualities and to the possible detriment of recreational boats and activities.

Roads and Access

The further opening up of Weymouth through improved road links and high media exposure during the 2012 Olympic Sailing events, may bring more people to Weymouth and adjacent areas generally and will provide access for significant numbers of people during the Olympics.

Shaping the Future Seascape

Expansion of Portland Harbour facilities must be **planned** to ensure that this does not displace other recreational activities and should take account of visibility from adjacent land and marine areas.

The impact of large ships lying off Portland needs to be **managed** as this can add interest but may also result in significant visual impacts if numbers or frequency increases significantly.

The potential conflicts between different users within coastal waters should be **managed** and might include the zoning of activities or limitations on numbers and types of boat in certain areas.

AQUACULTURE, LAND MANAGEMENT AND FISHING

Forces for Changes

Marine litter is a significant detractor along beaches and in coastal waters. This is derived from offshore shipping and fishing activity as well as litter from terrestrial sources, and can pose a threat to wildlife as well as visual amenity.

Pollution from land and sea based activities would pose a significant threat to sensitive coastal habitat and the beach environment as well as affecting the turbidity of the coastal waters which would have a significant visual impact. This is already evident near river mouths after heavy rains. There are already controls in place through existing legislation, such as the Pollution Control and Prevention Act 1999, but it is important to ensure enforcement and encourage good land management practices to control run off from agricultural land. In addition pollution from marine sources needs to be controlled and managed with emergency contingency plans in place should a major pollution event occur, in order to protect coastal waters fisheries and important recreational beaches.

Better technology, changes in fisheries control and increased economic demand could result in more aquaculture development.

In addition, fishing restrictions as a result of the ratification of Marine Conservation Zones may affect fishing patterns and activities. The visible effects may be changes to types and numbers of boats in these waters, more buoys visible on the water surface and temporal shifts in usage.

As with all waters, there is potential for mobile fishing gear, and anchoring boats, to damage the seabed or its communities.

Other changes may result due to the Marine Planning process or, for example, reforms to the fishing industry from policy changes within The Common Fisheries Policy review in 2012.

Shaping the Future Seascape

Marine litter and pollution is a continuing issue and management initiatives to reduce, collect and dispose of marine litter should continue to be implemented. Pollution control measures, which currently operate, should continue to be updated and reviewed together with plans to deal with any significant pollution events such as coastal shipwrecks and oil spills.

The implementation of the Marine and Coastal Access Act, 2009, will result in Marine Conservation Zones (MCZs) being designated. These will be subject to management plans and it is likely that the coastal waters of Dorset, their fisheries and fishing practices will be affected by these proposals, with the potential for recreational activities to be further **managed**. Seascape character should be taken into account when drawing up management plans.

TOURISM AND RECREATION

Forces for Change

Increase in recreational activities such as motor boats, sailing boats, and watersports especially in Poole Bay and Weymouth Bay, could impact on the balance and enjoyment of these activities. Upgrading of access and development of further infrastructure has the potential to open up areas to tourism and leisure activities and should be carefully evaluated to ensure that the intrinsic qualities of these coastal waters and associated coastal land areas continues.

Where recreational boats anchor there is potential for damage to occur to the seabed and habitats so any changes to popular anchorage areas needs to be evaluated and managed as necessary.

Tourism developments such as holiday parks, housing and supporting facilities could impact on visual and perceptual qualities of the coast and associated coastal waters. The coastal strip is often highly visible from some distance and so the extent and scale of any further coastal development needs to be appropriate to its context and take account of the intervisibility between coastal areas and the sea.

Shaping the Future Seascape

The aim of future seascape management within this SCT and the closely associated coastal land areas should be to **plan** and **manage** further coastal development to ensure that the intrinsic perceptual qualities of this coast are maintained. The aim should be to **plan** for new development in areas where it is least visually intrusive and damaging to land and seascape character and the natural environment. Access pressures and the loss of natural habitat should also be **managed** through the use of management plans to ensure those areas most sensitive to recreational pressure are avoided.

Watersports, including recreational power boats, need to be **managed** to reduce or avoid conflicts and measures could include limitations on numbers or zonation of areas for different uses. Restrictions or limitations should be placed on light aircraft and helicopters low flying over quieter areas.

ENERGY PROVISION

Forces for Change

There are areas off Portland where tidal resources are sufficient to be considered for generation of renewable energy.

The West of Wight offshore wind farm area also lies offshore of the eastern parts of this SCT. 30% of this zone could be developed, although the exact location of turbines is currently unknown, Construction is currently expected to commence in 2016, and to be completed in 2018.

Shaping the Future Seascape

The siting of any infrastructure associated with bringing tidal power ashore or any infrastructure within the sea itself should be carefully **planned** and sited with respect to sensitive marine environments. Whilst there are limited opportunities to **protect** the open character of the seascape, the aim should be to **protect** visual amenity by siting infrastructure away from sensitive onshore and coastal locations with sensitive receptors or particularly strong or valued semi-natural character.

Any offshore wind farm proposals should be assessed through a comprehensive EIA process to determine the optimum location for the turbines within the proposed sea area on the basis of predicted impacts and this should take into account effects on seascape character, including that of the affected seascape type and any adjacent SCTs and LCTs. A visual impact assessment should also be undertaken to determine impacts on key viewpoints and receptors.

MINERALS AND WASTE

Forces for Change

Sand and gravel extraction occurs in Poole Bay and as pressure on land-based sources continues to increase, there is likely to be greater reliance on marine aggregates, even with recycled and secondary aggregates playing a greater role. Vessels used for dredging can have a significant impact on tranquillity and visual amenity, albeit locally and temporarily.

Dredging also disturbs benthic habitats, removing the substrate and changing the topography of the seabed.

There are several licensed hydrocarbon fields within Poole Bay and in Poole Harbour. Extraction already occurs on a small scale in Poole Harbour and could be extended into the coastal waters, although there are no plans to do so at present. Exploration, construction, operation and decommissioning of facilities can have a detrimental effect on the character and visual amenity of the wider environment.

Shaping the Future Seascape

The goal should be to **manage** dredging, ensuring vessels are kept outside the most sensitive marine environments.

Any proposals to initiate the extraction of oil in coastal waters should be **planned** and **managed** to **protect** sensitive marine environments and visual and perceptual qualities of the seascape including the considerable recreational value of these coastal waters. The impact on seascape character of any rigs offshore would need to be assessed and any on shore facilities carefully located to minimise effects on landscape character and to ensure they are located away from key viewpoints or areas with high intervisibility with the coast and sea.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Climate change predictions suggest that increased storminess and extreme weather events may affect coastal waters throughout the UK and average water temperatures are forecast to rise. The effect of this may be to alter coastal processes, ecology and the usage patterns and types of fishing taking place within coastal waters. It may also affect the temporal patterns of use of coastal waters.

Coastal erosion may also have consequences for urban areas and it is likely that these areas may need to be protected by active intervention on the coast (maintenance, upgrading or construction of new coastal defences). Any coastal defence policies need to take account of the character of this part of the coast and adjacent waters whilst recognising the need to defend vulnerable urban areas and infrastructure.

Coastal erosion may also affect species distribution and change habitats through alterations of the sediment regime.

Shaping the Future Seascape

Management plans for the marine resource is key to balancing the important commercial and recreational fishing on this part of the coast with the maintenance of biodiversity and healthy ecosystems, and these should be regularly updated to respond to changing climatic and economic conditions.

Shoreline Management Plans should be prepared and updated on a regular basis to take account of climate change, changes to coastal processes and the character of the Active Coastal Waters SCT. Evaluation of the visual and perceptual impacts of coastal management should be integral to any such management plans.

SCT 3D:
INSHORE WATERS

Portland Bill

KEY CHARACTERISTICS

- Medium water depth (30-40 metres);
- Visual relationship with coast less marked. More remote from land;
- Complexity of superficial sediments supports important BAP habitats and biodiversity;
- Mix of uses where no single activity type dominates:
- Fishing limited consisting mostly of potting, using mainly medium size (12-15m) fishing boats;
- Shipping mainly consisting of the north –south movement of ferries and other boats from deep water into harbours;
- Mainly strong currents.

SEASCAPE CHARACTER

The Inshore Waters Seascape Character Type (SCT) comprises waters principally within the 12 nm territorial waters. It lies seaward of the Coastal Waters SCTs and inshore of the Deep Water SCTs, where larger trawlers operate and the main shipping lanes of the English Channel. The visual relationship with the coast varies but is more remote than the Coastal Waters. Land is still visible on a clear day, especially the main coastal landmarks such as the Isle of Portland, and the highly visible, chalk, limestone and sandstone cliffs of the coast between Lyme Regis and Durlston Head. Slumped cliffs are also prominent where they are darker in colour. There are no beaches visible from this distance.

Since the territorial limit imposes restrictions on foreign vessels in the 6-12nm zone, and UK vessels to less than 12m long boats within the 6nm zone there tend to be relatively low numbers of fishing boats in the Inshore Water SCT and these tend to be smaller boats engaged in potting. There is some sailing activity mainly from boats on an east - west passage but these tend to be in relatively low numbers and well dispersed.

PHYSICAL INFLUENCES

The Inshore Waters average from 30-40m in depth and this depth is relatively consistent across the SCT. The Inshore Waters are underlain by a mix of marine sediments which are sandier in the west and with more gravels, which range from fine to coarse, mixed into the sand and mud to the east. The mixed sediments tend to support crustacea and bivalves. The tide stress tends to increase from west to east with areas to the west of Lyme Bay having weak tide stress, whilst areas to the east of Portland Bill are subjected to moderate to strong tide stress. All these physical factors influence the patterns of fishing and other boat usage.

CULTURAL INFLUENCES

The coastal and inshore waters off Dorset have a long history of navigational, fishing and military uses with the routes southwards to France and Spain and east –west movements of fishing and sailing boats moving between ports and up the English Channel. Potting and sailing boats make up the majority of boats using the Inshore Waters SCT. The numbers of boats in this SCT tend to be low in number and well dispersed. Some larger boats such as the ships and ferries going to Portland and Weymouth cross this SCT perpendicular to the coast on their way to and from the main shipping lanes and French ports.

AESTHETIC AND PERCEPTUAL QUALITIES

The Inshore Waters SCT has a visual relationship with the Dorset coast with significant and prominent features still visible from all areas of the SCT, provided there is good visibility. The most prominent landmark is the wedge-shaped Isle of Portland, which projects well out from the coast, and has a prominent red and white lighthouse at Portland Bill. The coast east of Portland is visible for long distances due to the white and light grey chalk and limestone cliffs. West of Portland the most distinctive landmark is the sandstone cliffs at West Bay whose ochre colour, which varies according to the light conditions, can be an orange or yellow 'beacon' in some lights. The character of this seascape is significantly influenced by the seasons, light and weather conditions.

The limited fishing and recreational boating activity in this area is also temporal and will vary depending on weather conditions and season. It is anticipated that this SCT will be very quiet in winter.

SEASCAPE CHANGE AND MANAGEMENT

AQUACULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

The Inshore Waters at present are quieter than further offshore due to current fisheries policies. Changes to the restrictions on UK and foreign fishing boats in the 6 to 12nm limits could result in increases or further decreases to the limited fishing activity that occurs in Inshore Waters.

Marine pollution and damage to seabed/reef habitats from mobile fishing gear may affect fisheries in Inshore Waters.

Aquaculture and changes in fishing types and practices could have an effect on the relatively quiet Inshore Waters.

Restrictions as a result of Marine Conservation Zones may affect fishing patterns and activities.

Shaping the Future Seascape

Fisheries management and changes to fishing restrictions should be assessed in terms of implications on the numbers and types of boats using the SCT, which may affect the relatively quiet character of these waters which are also visible from, mainly rural, coastal areas.

ENERGY PROVISION

Forces for Change

The West of Wight offshore wind farm area partly falls within this SCT. 30% of this zone could be developed, although the exact location of turbines is currently unknown, giving an approximate capacity of 900MW. Construction is currently expected to commence in 2016, and to be completed in 2018.

Shaping the Future Seascape

Any offshore wind farm proposals should be assessed through a comprehensive EIA process to determine the optimum location for the turbines within the proposed sea area on the basis of predicted impacts and this should take into account effects on seascape character, including that of the affected seascape type and any adjacent SCTs and Landscape Character Types. A visual impact assessment should also be undertaken to determine impacts on key viewpoints and receptors.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Climate change predictions suggest that increased storminess and extreme weather events may affect coastal and inshore waters throughout the UK and average water temperatures are forecast to rise. The effect of this may be to alter coastal processes and ecology and the usage patterns and types of activities taking place. For example, increased storminess might affect how far and how often small boats are able to move offshore.

Shaping the Future Seascape

The implementation of the Marine and Coastal Access Act, 2009, will result in Marine Conservation Zones (MCZs) being designated, which will be subject to management plans and it is likely that the coastal and inshore waters of Dorset, their fisheries and fishing practices will be affected by these proposals, with the potential for recreational activities to be also managed. Seascape character should be taken into account when drawing up management plans.

SCT 3E:
DEEP WATER OFFSHORE FISHING

Fishing Boat

KEY CHARACTERISTICS

- Deeper water ranging from 50 to 100 metres deep with varied visual relationship with coast; Often remote;
- Generally sheltered by landform and with weaker currents;
- Concentration of large trawlers and fishing boats; and
- Outside main shipping lanes.

SEASCAPE CHARACTER

The Deep Water Offshore Fishing Waters Seascape Character Type (SCT) mainly lies beyond the 12nm territorial waters limit southwards of Lyme Bay, but still within the lee of the Devon coast which extends south from Torbay. It is a large body of water with natural, cultural and historic interests which shape the character of the sea floor, water column and surface. This SCT is becoming remote from the Dorset coast although it may still be visible on a clear day. The Isle of Portland remains a landmark, although more distant, whilst any views to the Dorset coast are indistinct with little detail visible.

The SCT is an important fishing ground for large demersal fishing vessels and it is this activity which defines the type. The area is also used by recreational sailing and motor boats moving in an east - west direction along the coast and heading towards the Channel Islands and coast of France. By virtue of the fact that the waters are further offshore these tend to be used by larger yachts and cruisers which are generally well dispersed.

PHYSICAL INFLUENCES

The Deep Water Offshore Fishing Waters SCT comprises waters ranging from 50 to 100m in depth and underlain by a mix of coarse sediments which are subject to moderate to strong tide stress. The fish species in this area include valuable commercial species such as plaice, sole, bass, herring and mackerel. These waters are in the transitional waters between Atlantic and Eastern Channel so that there is diverse mix of species, some of which are close to their limits of distribution.

CULTURAL INFLUENCES

The area is important fishing ground with beam trawlers targeting species such as sole and plaice, together with bass and squid. Herring, mackerel and sprat are also caught during the colder months with the visiting pair trawlers landing their catch directly back in France. The Deep Water Offshore Fishing SCT continues to have a role in the passage of recreational yachts and larger power boats which are moving along the coast and crossing north-south to the Channel Islands and France.

AESTHETIC AND PERCEPTUAL QUALITIES

The Deep Water Offshore Fishing SCT is remote from the coast which is only visible on clear days. The Isle of Portland remains an important landmark and land fall albeit becoming indistinct or indiscernible from the western areas of the type. The SCT is therefore very much influenced by weather conditions which can change the sea from calm, blue waters to grey churned up seas during gales and storms. The types and numbers of boats operating in these waters are, to an extent, seasonal and also depend on the prevailing weather conditions and tides.

SEASCAPE CHANGE AND MANAGEMENT

AQUACULTURE, LAND MANAGEMENT AND FISHING

Forces for Change

There are a number of factors that could affect the character of Deep Water Offshore Fishing areas through impacts on fisheries. These include marine pollution and damage to seabed/reef habitats from mobile fishing gear and fishing restrictions as a result of conservation designations (SACs and Marine Conservation Zones).

Any changes which result in an increase in trawling closer to shore could affect perceptual and visual qualities of adjacent marine types and coastal areas.

Shaping the Future Seascape

The future of the offshore fishing industry will be largely influenced by the Common Fisheries Policy (CFP) reform, vessel decommissioning and MCZ designation which is beyond the scope of County policy.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Climate change predictions suggest that increased storminess and extreme weather events may affect offshore waters of the UK and average water temperatures are forecast to rise. The effect of this may be to alter physical oceanography and ecology, particularly target species distribution, and the usage patterns and types of activities taking place in offshore waters. For example, increased storminess might affect how far and how often small boats are able to move offshore.

Shaping the Future Seascape

The future management of the UK fishing fleets and activities will need to take into account changes to the health of fish stocks and species distributions associated with climate change predictions.

SCT 3F:
DEEP WATER OFFSHORE SHIPPING

Offshore Shipping

KEY CHARACTERISTICS

- Remote from coastline, deeper waters generally ranging from 50 to 100 metres;
- Large commercial shipping including international vessels, freight, fishing and passenger ferries; and
- Variable currents but generally less sheltered with stronger currents and tides;

SEASCAPE CHARACTER

The Deep Water Offshore Shipping SCT mainly lies well beyond the 12nm territorial waters limit and the boundary is aligned roughly south-west to north-east following the main shipping lanes from the Atlantic into the English Channel and also into the Solent via the Needles Channel. At its extreme north eastern extent the SCT comes closer inshore than the 12nm limit and abuts the Active Coastal Waters SCT. Otherwise it lies beyond the Inshore Waters and Deep Water Offshore Fishing types. It is a large body of water with natural, cultural and historic interest which shape the seafloor, water column and surface waters. This SCT is remote with little influence exerted by the coast, which may just be visible on a clear day from its northern extents, but is often out of sight of land beyond this. The Isle of Portland remains a landmark for the north-eastern areas of the type as does the Isle of Wight coast and the Needles. The SCT is within the main shipping lanes in the English Channel and is characterised by the large commercial shipping that plies these extremely busy shipping lanes.

PHYSICAL INFLUENCES

The deep waters of the SCT are mainly between 50m and 100m deep although they become shallower on the approaches to the Solent, via the Needles Channel at approximately 30-40m deep. The type is largely underlain by mixed or coarse sediments with moderate to strong tide stress.

CULTURAL INFLUENCES

The English Channel is one of the world's busiest seaways linking the North Atlantic to the UK and European ports, providing the route for vessels heading for the English southern and eastern coastal ports and the European ports of northern France, Belgium, Holland and beyond. The Channel has always been the key natural defence of Britain and has been the site of successful invasions such as the Romans and the Norman Conquest, but has provided a barrier to invasion by the Spanish Armada, during the Napoleonic Wars and during the two World Wars.

In peaceful times the Channel has been an important route for the transportation of goods and people and for cultural exchange, with close links between, for example, the Cornish and Bretons. Transport by sea was often easier than across inaccessible land areas as occurred, for example, in the transport of stone from Portland.

AESTHETIC AND PERCEPTUAL QUALITIES

The Deep Water Offshore Shipping SCT is largely remote from the Dorset Coast, except on the north-eastern approaches to the Solent where it comes closer to shore. The type is very much influenced by weather conditions which can change the sea from calm, blue waters to grey churned up waters during gales and storms. Large vessels and ships operate in these waters throughout the year although extreme weather conditions could cause these ships to temporarily seek refuge closer inshore.

SEASCAPE CHANGE AND MANAGEMENT

INFRASTRUCTURE

Forces for Change

The size and types of shipping using these navigation routes may change in size or frequency which could result in even greater densities of shipping in what are already very busy shipping lanes. Shipping patterns however are largely determined through national and international policy.

ENERGY PROVISION

Forces for Change

The proposed West of Isle of Wight offshore wind farm area partly falls within this SCT. 30% of this zone could be developed, although the exact location of turbines is currently unknown, giving an approximate capacity of 900MW. Construction is currently expected to commence in 2016, and to be completed in 2018.

Shaping the Future Seascape

Any offshore wind farm proposals should be assessed through a comprehensive EIA process to determine the optimum location for the turbines within the proposed sea area on the basis of predicted impacts and this should take into account effects on seascape character, including that of the affected seascape type and any adjacent SCTs and Landscape Character Types. A visual impact assessment should also be undertaken to determine impacts on key viewpoints and receptors.

ENVIRONMENTAL PROCESSES AND CLIMATE CHANGE

Forces for Change

Climate change predictions suggest that increased storminess and extreme weather events may affect the offshore waters of the UK and average water temperatures are forecast to rise. The effect of this may be to alter physical oceanography and ecology and the usage patterns and types of activities taking place in offshore waters and could result in greater frequency, for example, of ships seeking safe anchorage further inshore.

Shaping the Future Seascape

Future management of offshore waters will need to take into account the impacts of climate change, to provide, if required, safe anchorage areas closer to shore or contingency plans in the event of greater number of accidents as a result of increased storminess and extreme weather events.

Planning of more safe anchorages would need to take account of impacts on the seascape character of the relevant SCTs as well as any visual impacts on adjacent SCTs or LCTs where there is intervisibility.

APPENDICES

APPENDIX 1: GLOSSARY

Studland Bay

Landscape/Seascape – an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors'. (ELC definition)

Landscape protection – 'action to conserve and maintain the significant or characteristic features of a landscape, justified by the landscape's heritage value derived from its natural configuration and/or human activity' (as defined by the ELC and used consistently within this document).

Landscape management – 'action from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes'(as defined by the ELC and used consistently within this document).

Landscape planning – 'strong forward looking action to enhance, restore or create landscape'(as defined by the ELC and used consistently within this document).

Landscape Character Area – a unique geographic area with a consistent landscape character and identity, which forms part of a character type.

Landscape Character Type – a generic term for landscape with a consistent character. Landscape character types may occur in different parts of the country, but wherever they occur, they will share common combinations of geology, topography, vegetation and human influences. For purposes of this assessment, Landscape Character Types have been used as defined in the Dorset County Landscape Character Assessment.

Seascape Character Type – a generic term for seascape with a consistent character, used for both coastal and marine types along the Dorset coast. Seascape character types may occur in different parts of the country, but wherever they occur, they will share common combinations of geology, bathymetry, ecology and human influences.

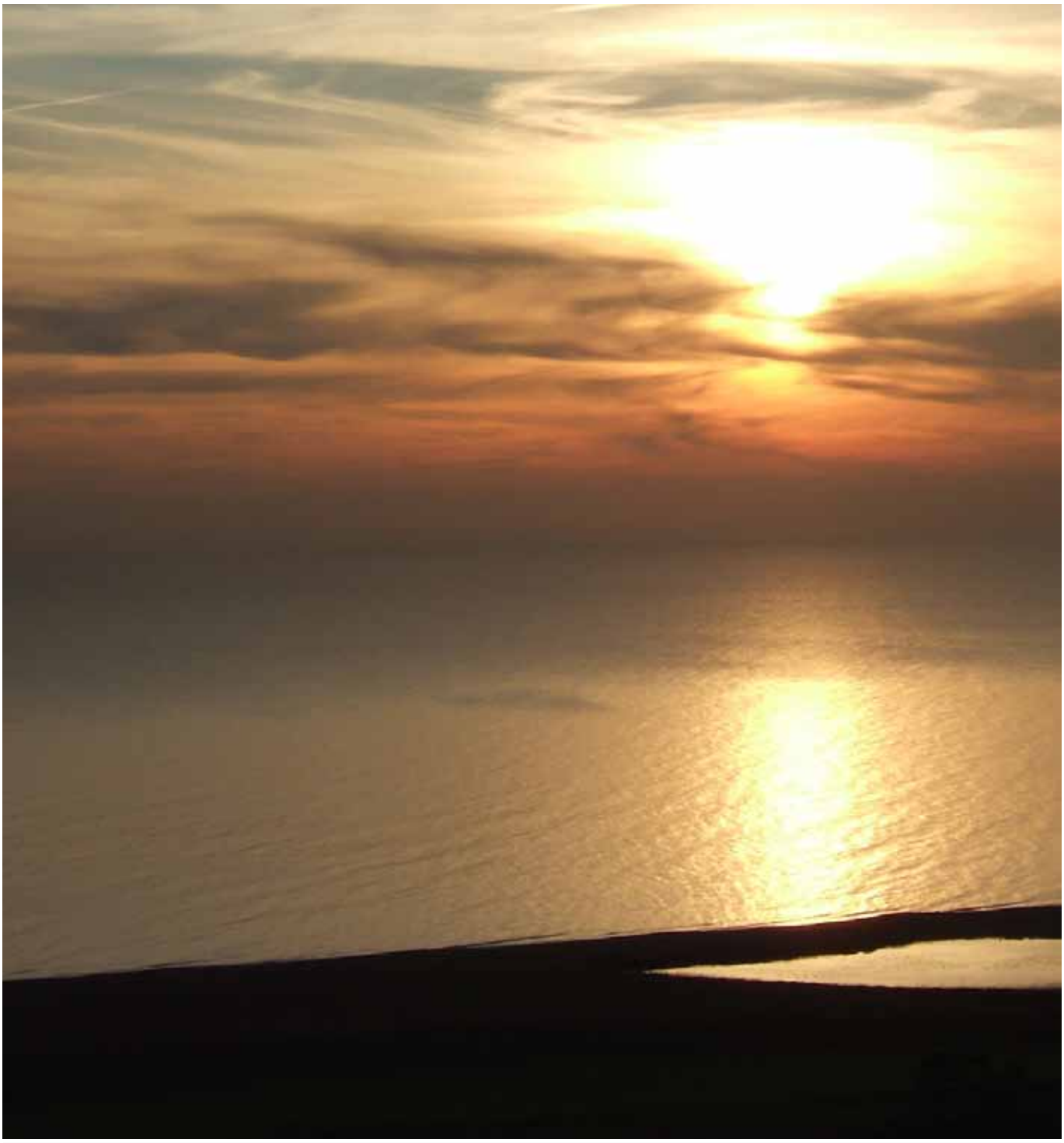
Character – a distinct pattern or combination of elements that occurs consistently in a particular landscape or seascape.

Perception - 'Perception' combines the sensory (that which we receive through our senses) with the cognitive (our knowledge and understanding gained from many sources and experiences). It is the application of the cognitive which turns the coloured pattern on our retina into a landscape perception in our brain.

Characteristic – an element that contributes to local distinctiveness (e.g. narrow winding coastal roads, vernacular building styles, cliff formations).
Feature – a prominent, eye-catching element (e.g. striking chalk cliff face, light house).

APPENDICES

APPENDIX 2: BIBLIOGRAPHY



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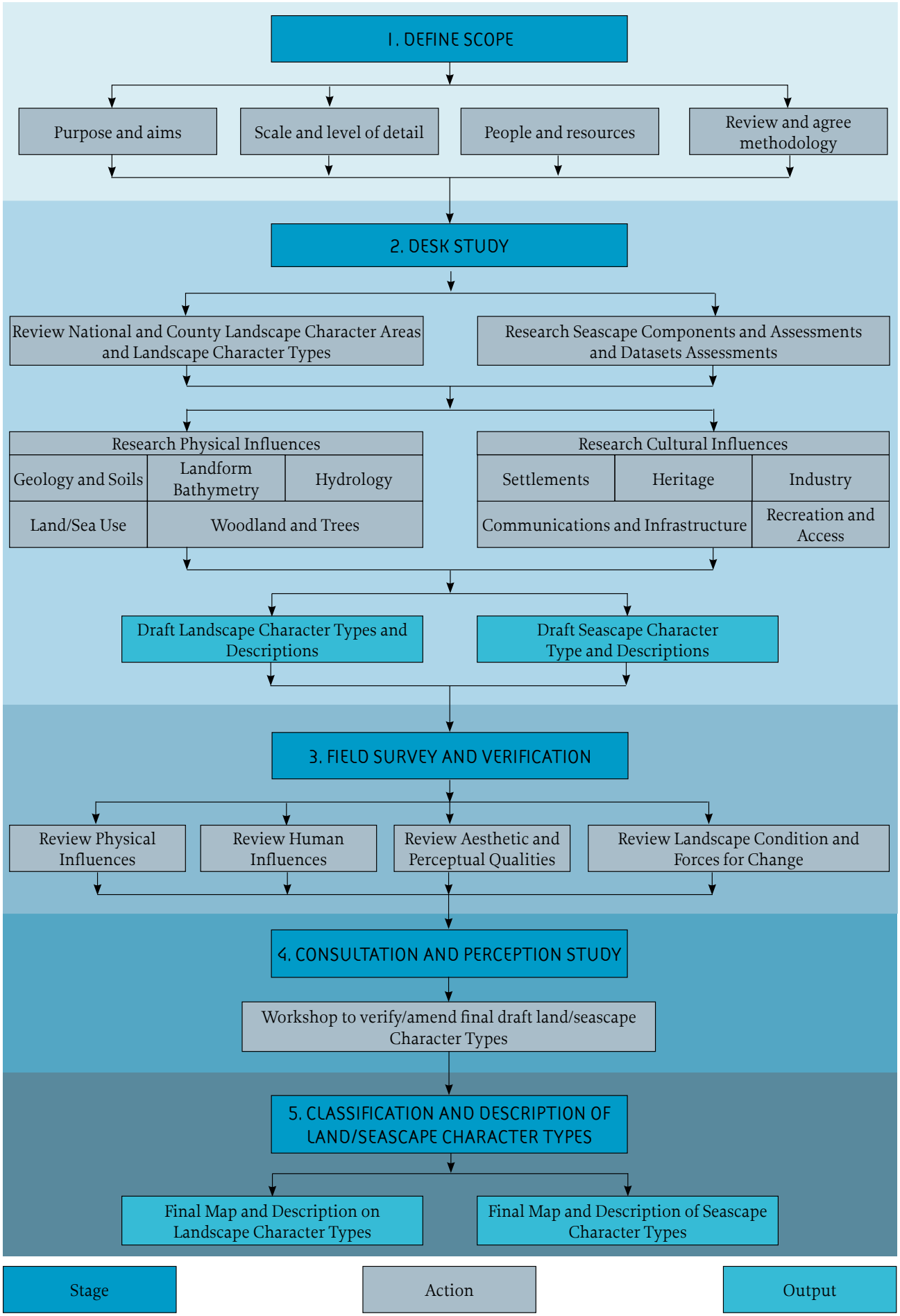
APPENDICES

APPENDIX 3:
FLOW DIAGRAM OF LANDSCAPE/SEASCAPE ASSESSMENT METHODOLOGY

Durlston Bay

Appendix 3: Flow Diagram of Landscape Assessment Methodology



APPENDICES

APPENDIX 4:
NATIONAL LANDSCAPE TYPOLOGY DEFINITIVE ATTRIBUTES

Huts at Lyme Regis

National Landscape Typology - Definitive Attributes		
Attribute		**Definition**
Physiography		**The underlying structure and physical form of the land surface. Derived from interpretation of the relationship between geological and contour data.**
H	High hills	High land, mainly over 1000 ft, including descriptive landform classes 'high hills & ridges' and 'mountains' (see below) - associated with Palaeozoic (Permian, Carboniferous, Devonian, Ordovician, Silurian & Cambrian) and earlier Pre-Cambrian rocks of sedimentary, or igneous origin.
U	Low hills	Upstanding areas, mainly below 1000 ft, including descriptive landform class 'low hills - sloping' (see below) - associated with Palaeozoic (Permian, Carboniferous, Devonian, Ordovician, Silurian & Cambrian) and Mesozoic rocks (mainly sandstones and limestones) of sedimentary origin.
V	Upland vales & valleys	Low-lying areas including descriptive landform classes 'upland vales & valleys and 'rolling lowland' (see below) - associated mainly with Palaeozoic (Permian, Carboniferous, Devonian, Ordovician, Silurian & Cambrian) and earlier Pre-Cambrian rocks of sedimentary origin.
R	Intermediate	Rolling/undulating areas, below 1000 ft, including descriptive landform classes 'low hills - plateau' and 'rolling lowland' (see below) - associated mainly with Mesozoic (Cretaceous, Jurassic, Triassic & Permian) or Tertiary rocks of sedimentary origin and glacial till.
L	Lowlands	Low-lying areas, mainly below 300 ft, including descriptive landform classes 'levels' and 'lowland vales & valleys' (see below) - associated with Mesozoic (Cretaceous, Jurassic, Triassic & Permian) or Tertiary rocks of sedimentary origin, and glacial or fluvial (marine, riverine, lacustrine, or wind blown) drift.

Attribute		Definition
Landcover		**The nature of the ground in which terrestrial plants (natural and cultivated) grow. Derived from interpretation of geological, soils and agricultural census data.**
W	Wetland	Low-lying land associated with fluvial (marine/riverine) drift and supporting wetland (wet pasture, marsh, fen or relic wetland vegetation characterised by lines of willow, needs in ditches, etc. Land may be seasonally or perennially wet; often associated with ditches.
D	Health & Moorland	Land associated with nutrient-poor mineral and/or peaty soils supporting dwarf shrub heath, acidic grassland and bog habitats, or relic heathy/moorland vegetation (bracken, gorse, etc.). This ground type is normally associated with sandstone, or sandy drift in the lowlands, but it is widespread on mixed sedimentary and igneous rocks in upland/hard rock areas. Often marginal in agricultural terms.
L	Chalk & Limestone	Light land associated with shallow, free-draining soils developed directly on chalk; or limestone bedrock – typically distinguished by stoney soils with relic calcareous grassland on steeper slopes in soft rock areas and rock outcrops/limestone pavement with dry species-rich pasture/hay meadow in hard rock areas.
B	Other Light Land	Light land associated with free-draining loamy and sandy solid developed on permeable rocks (sandstones, siltstones & mudstones), or sandy drift at elevations below about 300 metres. Within the soft rock zone, where there are few constraints to agricultural production, this ground type is strongly associated with arable cultivation. Mixed farming predominates on the shallower soils found in western hard rock areas.
C	Clayland	Heavy, often poorly draining land associated with base-rich, clayey and loamy soils developed on soft (Mesozoic & Tertiary) clay and chalky till. Seasonal waterlogging is the main constraint to agricultural production and, although utilized extensively for cereal growing in Eastern England, this ground type is mainly under permanent grassland in central and western areas where neutral grassland is the characteristic associated habitat.
P	Other Heavy Land	Heavy land typically associated with base-poor, clayey and loamy soils developed on slowly permeable rocks (mudstones & shales) and mixed till/plateau drift. Seasonal waterlogging is the main constraint to agricultural production and this ground type is mainly under permanent grassland – patches of wet heath are the characteristic associated habitat, grading into wet moorland at higher elevations in the north and west.

Attribute		Definition
Cultural pattern		**The structural component of the cultural landscape as expressed through the historic pattern of settlement and land use.**
A	Wooded - ancient woods	Settled agricultural landscapes (dispersed or nucleated settlement) characterised by an assarted pattern of ancient woodlands which pre-date the surrounding enclosure pattern - in places associated with densely scattered hedgerow trees (typically oak).
E	Wooded - estateland	Settled agricultural landscapes characterised by estate plantations, parkland and belts of trees. Settlement is usually restricted to scattered farmsteads and small estate villages.
S	Wooded - secondary	Marginal agricultural landscapes (sparsely settled/unsettled) characterised by patches of secondary woodland and/or recent forestry plantation - usually associated with a large scale rectilinear enclosure pattern.
D	Dispersed unwooded	Settled agricultural landscapes characterised by a moderate to high level of dispersal, comprising scattered farmsteads and frequent clusters of wayside dwellings. Although typically unwooded, hedgerow, streamside and other trees are often a prominent feature.
N	Nucleated unwooded	Settled agricultural landscapes characterised by discrete settlement nuclei (villages and/or hamlets) associated with a low to moderate scattering of farms and outlying dwellings. Tree cover is usually fairly sparse and restricted to thinly scattered trees and/or small coverts/tree groups.
W	Wetland/waste unwooded	Open, sparsely settled agricultural landscapes characterised by a surveyor enclosed pattern of large rectilinear fields and isolated farmsteads. Tree cover is usually restricted to watercourses, or groups of trees around buildings.
O	Unsettled/open land	Extensive areas of uncultivated, mainly unenclosed land (including moorland, heath and coastal grazing marsh) characterised by the virtual absence of human habitation.
C	Coalfields	Semi-rural areas (eg. the coalfields of Derbyshire) that have been significantly altered by large-scale industrial activity.
Ur	Urban	Extensive areas of predominantly built land where the rural settlement pattern has been completely subsumed by urban development (see urban land use).

APPENDICES

APPENDIX 5:
FIELD WORK TOOL KIT

Boats in Poole Harbour courtesy of DCF

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Terrestrial

1. Housekeeping

1a. Surveyor Name	1b. Date

1c. Location

1d. GPS Grid Reference	1e. Map Survey Point (SP) Number
E:	
N:	

1f. Digital Photograph Numbers							

1g. Draft Landscape Character Type (LCT)

1h. Influence on or relationship to neighbouring Landscape Character Type (LCT)

Note:
When completing the following questions use the prompting sheet provided.

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Terrestrial

2. Aesthetic and Perceptual Qualities
2a. Aesthetic Qualities – *Record the aesthetic qualities of the landscape.*
2b. Perceptual Qualities and Distinctiveness – *Record perceptual qualities of the landscape and degree of local distinctiveness.*
2c. Major Landmarks – *Photograph, record and name major landmark features and assess the contribution (positive, neutral or negative) they make to landscape character. Mark principal landmarks on the map.*

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Terrestrial

3. Local Distinctiveness, Landscape Condition and Landscape Change

3a. Landscape Condition – *Assess the condition of the landscape by reference to named features and determine the overall condition.*

Landscape Feature 1 (name):					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Landscape Feature 2 (name):					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Landscape Feature 3 (name):					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Overall Landscape Condition					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Terrestrial

3b. Landscape Change – *Identify the principal Forces for Change (FFC) on the landscape and their effect on landscape character by reference to named elements if appropriate.*

FFC 1 (name):			Notes:
Implications on landscape character/key characteristics:			
Widespread	Localised	Limited	
○	○	○	

FFC 2 (name):			Notes:
Implications on landscape character/key characteristics:			
Widespread	Localised	Limited	
○	○	○	

FFC 3 (name):			Notes:
Implications on landscape character/key characteristics:			
Widespread	Localised	Limited	
○	○	○	

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Coastal

1. Housekeeping

1a. Surveyor Name	1b. Date

1c. Location

1d. GPS Grid Reference	1e. Map Survey Point (SP) Number
E:	
N:	

1f. Digital Photograph Numbers							

1g. Draft Seascape Character Type (SCT)

1h. Influence on or relationship to neighbouring Seascape Character Type (SCT)

Note:
When completing the following questions use the prompting sheet provided.

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Coastal

2. Physical Influences

2a. Topography and geology – *Describe geological features, soil type and landform. Mark principal features on the map (using annotations provided).*

2b. Hydrology, Land Use and Land Cover– *Describe the main hydrological features, land use and land cover elements evident in the landscape.*

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Coastal

1. Housekeeping

1a. Surveyor Name	1b. Date

1c. Location

1d. GPS Grid Reference	1e. Map Survey Point (SP) Number
E:	
N:	

1f. Digital Photograph Numbers							

1g. Draft Seascape Character Type (SCT)

1h. Influence on or relationship to neighbouring Seascape Character Type (SCT)

Note:
When completing the following questions use the prompting sheet provided.

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Coastal

4. Aesthetic and Perceptual Qualities
4a. Aesthetic Qualities – *Record the aesthetic qualities of the seascape.*
4b. Perceptual Qualities and Distinctiveness – *Record perceptual qualities of the seascape and degree of local distinctiveness.*
4c. Major Landmarks – *Photograph, record and name major features and assess the contribution (positive, neutral or negative) they make to seascape character. Mark principal landmarks on the map.*

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Coastal

5. Local Distinctiveness, Seascape Condition and Seascape Change

5a. Seascape Condition – *Assess the condition of the seascape by reference to named features and determine the overall condition.*

Seascape Feature 1 (name):					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Seascape Feature 2 (name):					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Seascape Feature 3 (name):					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Overall Seascape Condition					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Coastal

5b. Seascape Change – *Identify the principal Forces for Change (FFC) on the seascape and their effect on seascape character by reference to named elements if appropriate.*

FFC 1 (name):			Notes:
Implications on seascape character/key characteristics:			
Widespread	Localised	Limited	
○	○	○	

FFC 2 (name):			Notes:
Implications on seascape character/key characteristics:			
Widespread	Localised	Limited	
○	○	○	

FFC 3 (name):			Notes:
Implications on seascape character/key characteristics:			
Widespread	Localised	Limited	
○	○	○	

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Sea

1. Housekeeping

1a. Surveyor Name	1b. Date

1c. Location

1d. GPS Grid Reference	1e. Map Survey Point (SP) Number
E:	
N:	

1f. Digital Photograph Numbers							

1g. Draft Seascape Character Type (SCT)

1h. Influence on or relationship to neighbouring Seascape Character Type (SCT)

Note:
When completing the following questions use the prompting sheet provided.

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Sea

2. Physical Influences

2a. Hydrology and Waves – *Describe hydrological features, wave action and water clarity. Mark principal features on the map (using annotations provided).*

2b. Sea Use and Sea Cover– *Describe the main features, sea use and sea cover elements evident in the seascape.*

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Sea

3. Human Influences

3a. Coastal Defences and Heritage – *Describe coastal defences and any significant heritage features.*

3b. Boundaries – *Record the main boundary features present, their state of repair/ condition and the patterns they create (and historic significance, if any).*

3c. Communications and Infrastructure– *Record the dominant communication and infrastructure features and describe any obvious patterns and the contribution they make to seascape character.*

3d. Recreation - *Describe any significant recreational features and elements in the seascape.*

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Sea

4. Aesthetic and Perceptual Qualities
4a. Aesthetic Qualities – *Record the aesthetic qualities of the seascape.*
4b. Perceptual Qualities and Distinctiveness – *Record perceptual qualities of the seascape and degree of local distinctiveness.*
4c. Major Landmarks – *Photograph, record and name major features and assess the contribution (positive, neutral or negative) they make to seascape character. Mark principal landmarks on the map.*

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Sea

5. Local Distinctiveness, Seascape Condition and Seascape Change

5a. Seascape Condition – *Assess the condition of the seascape by reference to named features and determine the overall condition.*

Seascape Feature 1 (name):					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Seascape Feature 2 (name):					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Seascape Feature 3 (name):					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Overall Seascape Condition					Notes:
Excellent	Good	Declining	Poor	Derelict	
○	○	○	○	○	

Appendix 5: Field Work Tool Kit
Digital Field Survey Form: Sea

5b. Seascape Change – *Identify the principal Forces for Change (FFC) on the seascape and their effect on seascape character by reference to named elements if appropriate.*

FFC 1 (name):			Notes:
Implications on seascape character/key characteristics:			
Widespread	Localised	Limited	
○	○	○	

FFC 2 (name):			Notes:
Implications on seascape character/key characteristics:			
Widespread	Localised	Limited	
○	○	○	

FFC 3 (name):			Notes:
Implications on seascape character/key characteristics:			
Widespread	Localised	Limited	
○	○	○	

Appendix 5: Field Work Tool Kit
Digital Field Survey Form Prompts: Terrestrial

Visit a minimum of three locations in each of the draft landscape character types to:

- Assess and describe aesthetic and perceptual qualities
- Record details of general condition and evidence of forces for change
- Survey form to be completed for at least one of the locations
- Photographic record to be provided for each location, including views towards the sea
- GPS to be recorded for each location

Aesthetic and Perceptual Qualities

Aesthetic Qualities

Pattern	Scale	Texture	Colour	Variety
Dominant	Intimate	Smooth	Monochrome	Uniform
Strong	Small	Textured	Muted	Simple
Broken	Large	Rough	Colourful	Diverse
Weak	Vast	Very rough	Garish	Complex

Unity	Form	Enclosure	Visual Dynamic	
Unified	Straight	Expansive	Panoramic	
Interrupted	Angular	Open	Framed	
Fragmented	Curved	Enclosed	Intermittent	
Chaotic	Sinuous	Confined	Channelled	

Perceptual Qualities

Security	Stimulus	Tranquillity	Naturalness	Noise
Intimate	Monotonous	Inaccessible	Natural	Loud
Safe	Interesting	Remote	Tamed	Intermittent
Unsettling	Challenging	Vacant	Managed	Distant
Threatening	Inspiring	Busy	Man-made	Quiet

Local Distinctiveness

Scenic Quality	Rarity	Visibility	Associations	
Outstanding	Single example	Open	Writers	Vernacular style
High	Rare	Overlooked	Artists	Local materials
Moderate	Frequent	Sheltered	Musicians	
Low	Common	Screened	Historic figures	

Landmarks

Church spire	Hill	Woodland	Positive
Church tower	Ridge	Tree	Neutral
Church spite & tower	Cliff	Copse	Negative
Prominent building(s)	Valley		
Telecoms mast	Escarpment		
Pylons	Archway		
Bridge	Stack		
Country house			
Cathedral			
Water tower			
Settlement			
Windmill			
Wind turbine			
Chimney			
Silo			
Agricultural building			
Folly			
Light house			

Note: Landmarks are particularly prominent or eye-catching elements in the landscape, such as distinctive hill top tree clumps, church towers or wooded skylines.

Appendix 5: Field Work Tool Kit
Digital Field Survey Form Prompts: Terrestrial

Landscape Condition and Landscape Change

Landscape Condition

Farmland	Stone walls	Heritage features		
Villages	Brick walls			
Buildings	Fences			
Woodland	Hedges			
Watercourses	Post and wire			
Water bodies	Post and rail			
Transport routes				

Landscape Change

Farming	**Industry/ mining**	**Infrastructure**	**Settlement**	**Tourism and Recreation**
Field amalgamation	Light industry	Road improvements	Infill	Honey pot
Large agri sheds	Heavy industry	Rural traffic	Expansion	Car parking
Farm amalgamation	Quarrying	Pylons	Ribbon development	Erosion
Reversion to arable	Waste – landfill	Telecoms masts	Suburbanisation	Littering
Diversification	Waste - fly tipping	Turbines	Barn conversions	Golf Courses
Specialisation			Out of town development	Caravan Parks
Intensive management				
Under management				
Grant schemes				
Renewable (bio-fuel) initiatives				
Soil erosion				
Setaside				
Loss of hedgerows				
In appropriate tree and woodland planting				

Appendix 5: Field Work Tool Kit
Digital Field Survey Form Prompts: Coastal

Visit a minimum of three locations in each of the draft landscape character types to:

- Assess and describe aesthetic and perceptual qualities
- Record details of general condition and evidence of forces for change
- Survey form to be completed for at least three of the locations
- Photographic record to be provided for each location
- GPS to be recorded for each location

Physical Influences

Geology

Bedrock	**Drift**	**Soils**	**Surface Expression**	**Formations**
Limestone	Alluvium	Sandy	Quarry/delve	Stacks
Shale	Boulder Clay	Clay	Exposure/outcrop	Archway
Chalk	Gravel	Loam	Landslip	
	Sands	Deep		
	Muds	Thin		
	Shingle/pebbles	Stony		
		Colour		

Landform

Flat	Bay	High
Gently undulating	Headland	Intermediate
Sloping	Terrace	Low
Steep	Estuary	
Vertical	Spit	
	Raised beach	
	Cliff	

Hydrology

Main river	Spring	Tides	Pools – natural
Main tributary	Spring line		
Stream	Drainage ditch		

Land Use and Land Cover

Sandy beach – human activity	Meadow	Cows	Quarry - active
Sandy beach – remote/inaccessible			
Dunes – sand	Rough grazing	Sheep	Quarry - disused
Dunes – vegetated	Grazing marsh	Horses/ponies	Sand and gravel extraction
Shingle beach – human activity	Setaside	Birds – flocking	Restored workings
Shingle beach – remote/inaccessible	Reed bed	Birds – nesting sites	
Rocky	Lagoon		
	Mudflat		
Cliff – rocky	Scrub		
Cliff – vegetated	Marsh/Saltmarsh		
Fossils	Heath		
	Recreation		
	Horsiculture		
	Parkland/Estates		

Appendix 5: Field Work Tool Kit
Digital Field Survey Form Prompts: Coastal

Woodland and Trees

Wet woodland	Deciduous	Regular	Clumps	Poplar
Unwooded	Coniferous	Irregular	Riverside trees	Alder
		Organic	Self sown	Willow
			Isolated trees	Oak
			Invasive vegetation	Ash
				Birch
				Pine
				Sycamore
				Exotics

Human Influences

Coastal Defence

Harbour wall – stone	Beach protection
Harbour wall – brick	
Harbour wall – concrete	
Groyne – timber	
Groyne – concrete	
Breakwater	

Heritage Features

Prehistoric defensive	Industrial heritage	Common land
Prehistoric ritual	Transport heritage	
Medieval fort/ castle	Mining heritage	
Medieval domestic	Agricultural heritage	
Military	Harbour/harbour wall	

Boundaries

Stone wall	Ditches - regular
Fences	Ditches - irregular
Post and wire	
Post and rail	
Field gate	

Communications and Infrastructure

Track	Lighting	Military training area	Footpath	High Voltage Pylons
Green lane	Oil	Army firing range	Bridleway	Transmission lines
Enclosure road	Marina	Mortar firing range	Byway	Wind turbine
	Harbour		Wide verges	Telecom mast >30m
	Light house		Signage	Telecom mast <30m

Appendix 5: Field Work Tool Kit
Digital Field Survey Form Prompts: Coastal

Recreation

National Trail	Country park	Historic monument	Water recreation – motorised	Usage – light	Marina
Long Distance Footpath	Park	Industrial heritage	Water recreation – non motorised	Usage – medium	Harbour
	Picnic site	Geological highlight	Boating/yachts/sailing	Usage – heavy	Slipway
	Viewpoint		Windsurfing/surfing/water-skiing		
	Car park		Golf Course		
	Caravan Park		Coasteering		
	Interpretation		Sand yachting		
			Kite surfing		
			Beach huts		
			Beach certification		

Aesthetic and Perceptual Qualities

Aesthetic Qualities

Pattern	Scale	Texture	Colour	Variety
Dominant	Intimate	Smooth	Monochrome	Uniform
Strong	Small	Textured	Muted	Simple
Broken	Large	Rough	Colourful	Diverse
Weak	Vast	Very rough	Garish	Complex

Unity	Form	Enclosure	Visual Dynamic
Unified	Straight	Expansive	Panoramic
Interrupted	Angular	Open	Framed
Fragmented	Curved	Enclosed	Intermittent
Chaotic	Sinuous	Confined	Channelled

Perceptual Qualities

Security	Stimulus	Tranquillity	Naturalness	Noise
Intimate	Monotonous	Inaccessible	Natural	Man-made
Safe	Interesting	Remote	Tamed	Natural
Unsettling	Challenging	Vacant	Managed	Loud
Threatening	Inspiring	Busy	Man-made	Intermittent
				Distant
				Quiet

Views	Smell	
Panoramic/wide	Natural	
Channelled/narrow	Man-made	
Filtered	Salty	
	Seaweed	
	Industry/fisheries	
	Fumes	

Local Distinctiveness

Scenic Quality	Rarity	Visibility	Associations
Outstanding	Single example	Open	Writers
High	Rare	Overlooked	Artists
Moderate	Frequent	Sheltered	Musicians
Low	Common	Screened	Historic figures

Appendix 5: Field Work Tool Kit
Digital Field Survey Form Prompts: Coastal

Landmarks

Church spire/tower	Hill	Woodland	Positive
Prominent building(s)	Ridge	Tree	Neutral
Telecoms mast	Cliff	Copse	Negative
Pylons	Valley		
Bridge			
Country house			
Cathedral			
Water tower			
Settlement			
Windmill			
Wind turbine			
Chimney			
Silo			
Agricultural building			
Folly			
Archway			
Stacks			
Light house			
Nodding donkey			
Port building			
Naval building			
Wharf			
Abandoned quarry			

Note: Landmarks are particularly prominent or eye-catching elements in the landscape, such as distinctive hill top tree clumps, church towers or wooded skylines.

Seascape Condition and Seascape Change

Seascape Condition

Littered/debris	Crumbling	Heritage features	Stone walls
Clean	Intact		Fences
Managed	Slipped		Post and wire
	Erosion		Post and rail

Seascape Change

Land Use	**Industry/ mining**	**Infrastructure**	**Tourism and Recreation**
Grazing	Light industry	Pylons	Intrusive/recessive
Diversification	Heavy industry	Telecoms masts	Noisy/quiet
Specialisation	Quarrying	Turbines	Active/passive
Intensive management	Waste – landfill		Honey pot
Under management	Waste – fly tipping		Erosion
Grant schemes			Littering
Renewable initiatives			Car parking
			Golf course
			Caravan park
			Fossiling

Appendix 5: Field Work Tool Kit
Digital Field Survey Form Prompts: Sea

- Visit a minimum of three locations in each of the draft landscape character types to:
  - Assess and describe aesthetic and perceptual qualities
  - Record details of general condition and evidence of forces for change
  - Survey form to be completed for at least one of the locations
  - Photographic record to be provided for each location
  - GPS to be recorded for each location

Physical Influences

Hydrology and Waves

Wave action/tide – gentle	Sheltered	Water – clear	Whirlpool
Wave action/tide – moderate	Exposed	Water – turbid (suspended sediment)	Race
Wave action/tide – rough			

Sea Use and Cover

Marine aquaculture – fishery – lines	Density – low	Alignment – ordered/regular
Marine aquaculture – fishery – beds	Density – medium	Alignment – sporadic/organic
Line fishing – land based	Density – high	
Line fishing – boat		
Netting – land based	Frequency – minimal	
Netting – boat	Frequency – moderate	
Fishing boat – trawling	Frequency – intense	
Fishing boat - potting		
Heavy shipping (containers/tankers)		
Liner/cruise ships	Size	
Ferries (cross channel)		
Military/naval vessels		
Recreation – motorised		
Recreation – non-motorised		

Appendix 5: Field Work Tool Kit
Digital Field Survey Form Prompts: Sea

Human Influences

Coastal Defence

Harbour wall – stone	Beach protection
Harbour wall – brick	
Harbour wall – concrete	
Groyne – timber	
Groyne – concrete	
Breakwater	

Heritage Features

Prehistoric defensive	Harbour/harbour wall	Wrecks – visible
Military		Wrecks – visible as buoys

Boundaries

Buoy demarcation	
Lighting	

Communications and Infrastructure

Dredging	Heavy shipping (containers/tankers) – route/pattern	Buoys	Military training area
	Liner/cruise ships – route/pattern	Lighting	Army firing range
	Ferries (cross channel) – route/pattern		Mortar firing range
	Military/naval vessels – route/pattern		
	Recreation – motorised – route/pattern		
	Recreation – non-motorised – route/pattern		
	Traffic separation		

Recreation

Water recreation – motorised	Usage – light	Marina
Water recreation – non motorised	Usage – medium	Harbour
Boating/yachts/sailing	Usage – heavy	Slipway
Windsurfing/surfing/water-skiing		Jetty/pier
Coasteering		Diveboats

Appendix 5: Field Work Tool Kit
Digital Field Survey Form Prompts: Sea

Aesthetic and Perceptual Qualities

Aesthetic Qualities

Scale	Texture	Colour	Variety
Small	Smooth	Monochrome	Uniform
Large	Textured	Muted	Simple
Vast	Rough	Colourful	Diverse
	Very rough		

Unity	Enclosure	Visual Dynamic	Inter-relationship with Coast
Unified	Expansive	Panoramic	Close/intimate
Interrupted	Open	Framed	Remote
Fragmented	Enclosed		No relationship

Perceptual Qualities

Stimulus	Tranquillity	Naturalness	Noise	Smell
Monotonous	Remote	Natural	Man-made	Natural
Interesting	Busy	Managed	Natural	Man-made
Challenging		Man-made	Loud	Salty
Inspiring			Intermittent	Seaweed
			Distant	Industry/fisheries
			Quiet	Fumes

Local Distinctiveness

Scenic Quality	Visibility
Outstanding	Open
High	Sheltered
Moderate	
Low	

Landmarks

Church spire/tower	Hill	Woodland	Positive
Prominent building(s)	Ridge	Tree	Neutral
Telecoms mast	Cliff	Copse	Negative
Pylons	Valley		
Bridge			
Country house			
Cathedral			
Water tower			
Settlement			
Windmill			
Wind turbine			
Chimney			
Silo			
Agricultural building			
Folly			
Archway			
Stacks			
Light house			
Port building			
Naval building			
Wharf			

Note: Landmarks are particularly prominent or eye-catching elements in the landscape or seascape, such as church towers or wooded skylines, light houses etc.

Appendix 5: Field Work Tool Kit
Digital Field Survey Form Prompts: Sea

Seascape Change

Marine Aquaculture	**Industry**	**Infrastructure**	**Tourism and Recreation**
Lines – alignment, quantity	Light industry	Transportation routes	Intrusive/recessive
Beds – alignment, quantity	Heavy industry	Renewable initiatives	Noisy/quiet
Cumulative effects		Extraction/dredging	Active/passive
Buoys		Oil/gas	Honey pot
Intensive management			Littering
Under management		Water clarity	
Fisheries – species/method of catch			

APPENDICES

APPENDIX 6: DATASETS USED IN THE ASSESSMENT & SOURCES

Isle of Portland

Appendix 6: Datasets Used in the Assessment and Source

Dataset	Theme	Source
C-SCOPE Marine Management Area Boundary	Base Data	DCF
OS maps - 1:25,000	Base Data	Ordnance Survey (OS)
OS maps - 1:50,000	Base Data	Ordnance Survey (OS)
OS map - 1:250,000	Base Data	Ordnance Survey (OS)
Digital Terrain Model		
Sea to Land Montages, 2004	Photographs	Jurassic Coast World Heritage Team
Admiralty Charts	Base Data	
Charted features	Base Data	SeaZone
Mean High Water Mark	Base Data	Ordnance Survey (OS)
Mean Low Water Mark	Base Data	Ordnance Survey (OS)
12 nautical mile territorial sea limit	Base Data	SeaZone
UK Continental Shelf Limit	Base Data	SeaZone
Counties	Base Data	Ordnance Survey (OS)
Districts	Base Data	Ordnance Survey (OS)
Photos	Base Data	Dorset Coast Forum
Webcams	Base Data	Dorset Coast Forum
Shoreline Construction	Coastal Defence & Engineering	SeaZone
Areas benefiting from flood defences	Coastal Defence and Engineering	Environment Agency
Flood Defences	Coastal Defence and Engineering	Environment Agency
Flood Zones (Coastal and River) - Zone 2	Coastal Defence and Engineering	Environment Agency
Sediment Transport - Photographs of Key Sites and Processes	Coastal Defence and Engineering	DCF
SMP2 Boundaries	Coastal Defence and Engineering	Dorset Coast Forum

Dataset	Theme	Source
SMP2 Policy Unit Endpoints	Coastal Defence and Engineering	Halcrows (for South Devon and Dorset Coastal Advisory Group (SDADCAG))
SMP2 Policy Units - Short term - No active intervention	Coastal Defence and Engineering	Dorset Coast Forum
SMP2 Policy Units - Short term - Hold the line	Coastal Defence and Engineering	Dorset Coast Forum
SMP2 Policy Units - Short term - Managed Retreat	Coastal Defence and Engineering	Dorset Coast Forum
SMP2 Policy Units - Medium term - No active intervention	Coastal Defence and Engineering	Dorset Coast Forum
SMP2 Policy Units - Medium term - Hold the line	Coastal Defence and Engineering	Dorset Coast Forum
SMP2 Policy Units - Medium term - Managed Retreat	Coastal Defence and Engineering	Dorset Coast Forum
SMP2 Policy Units - Long term - No active intervention	Coastal Defence and Engineering	Dorset Coast Forum
SMP2 Policy Units - Long term - Hold the line	Coastal Defence and Engineering	Dorset Coast Forum
SMP2 Policy Units - Long term - Managed Retreat	Coastal Defence and Engineering	Dorset Coast Forum
Population counts, age structure and Economically active population	Coastal Population	Office for National Statistics (ONS)
Urban areas	Coastal Population	DCC GIS drive
Coastal Saline Lagoons	Conservation - Habitats	Natural England
Coastal Sand Dune	Conservation - Habitats	Natural England
Coastal Vegetated Shingle	Conservation - Habitats	Natural England
Mudflat	Conservation - Habitats	Natural England
Reedbeds	Conservation - Habitats	Natural England
Eel grass beds - points	Conservation - Habitats	Dorset Environmental Records Centre
Eel grass beds - areas	Conservation - Habitats	Dorset Environmental Records Centre
Marine Habitat Action Plan Habitats	Conservation - Habitats	Dorset Environmental Records Centre
Potential Annex I Reef Habitat	Conservation - Habitats	Ian Saunders Offshore Data Support Officer Marine Protected Sites Team Joint Nature Conservation Committee
Potential Annex I Sandbanks	Conservation - Habitats	Ian Saunders Offshore Data Support Officer Marine Protected Sites Team Joint Nature Conservation Committee

Dataset	Theme	Source
Intertidal Biotopes	Conservation - Habitats	Dorset Wildlife Trust
Site of Special Scientific Interest (SSSI)	Conservation - Protected Sites	Natural England
National Nature Reserves (NNR)	Conservation - Protected Sites	Natural England
Ramsar sites	Conservation - Protected Sites	Natural England
Special Areas of Conservation (SAC)	Conservation - Protected Sites	Natural England
Special Protection Area (SPA)	Conservation - Protected Sites	Natural England
World Heritage Sites	Conservation - Protected Sites	English Heritage
Geological Conservation Review (GCR) sites	Conservation - Protected Sites	Joint Nature Conservation Committee (JNCC)
Regionally Important Geological Sites (RIGS)	Conservation - Protected Sites	Dorset's Important Geological Sites Group
Draft Marine Special Areas of Conservation - Poole Bay to Lyme Bay Reefs.	Conservation - Protected Sites	Natural England
Lagoon Sandworm and Eelgrass Protected Area	Conservation - Protected Sites	Portland Harbour Authority
Protected Area for Overwintering Birds	Conservation - Protected Sites	Portland Harbour Authority
Sites nominated as European Important Plant Areas for marine algae	Conservation - Protected Sites	Plantlife
Sites nominated as IPAs for marine algae in the UK	Conservation - Protected Sites	Plantlife
Coastal Birds - Breeding sites	Conservation - Species	Dorset Environmental Records Centre
Coastal Birds - Wintering sites	Conservation - Species	Dorset Environmental Records Centre
Common Marine Species	Conservation - Species	Dorset Environmental Records Centre
Marine Mammals Hotspots	Conservation - Species	Dorset Environmental Records Centre
Marine BAP Species	Conservation - Species	Dorset Environmental Records Centre
EU Protected Marine Species - Bern Convention	Conservation - Species	Dorset Environmental Records Centre
Important Bird Areas	Conservation - Species	RSPB
Invasive marine species	Conservation - Species	Dorset Environmental Records Centre

Dataset	Theme	Source
Nationally rare and scarce marine species	Conservation - Species	Dorset Environmental Records Centre
Potential Climate Change Marine Species	Conservation - Species	Dorset Environmental Records Centre
Wildlife & Countryside Act - Marine Species	Conservation - Species	Dorset Environmental Records Centre
Conservation Areas	Culture	District Councils
Wrecks	Culture	SeaZone
War graves	Culture	DCC GIS Drive Q:\MI_VECTOR\Coast Forum©DCC\Marine Archaeology.tab
Marine archaeological sites	Culture	DCC GIS Drive Q:\MI_VECTOR\Coast Forum©DCC\Marine Archaeology.tab
Dredging disposal areas	Dredging and dredged material disposal	SeaZone
Maintenance dredging	Dredging and dredged material disposal	SeaZone
Lyme Bay Designated Area	Fisheries	Dorset Coast Forum
Portland Harbour Fishing Restrictions	Fisheries	Portland Port
Several Orders	Fisheries	Portland Gas Ltd
Bass Nurseries	Fisheries	Dorset Coast Forum
Bottom Trawling	Fisheries	Finding Sanctuary
ICES Fishing Areas	Fisheries	ICES
Lobster Potting	Fisheries	Finding Sanctuary
Mussel Reefs	Fisheries	Colin Smith, Fish Farms
Fish processors and wholesalers	Fisheries	Dorset Coast Forum
Fishing fleets (bases)	Fisheries	Dorset Coast Forum
Shellfish farms	Fisheries	Portland Gas Ltd
Classified Bivalve Mollusc Harvesting Areas	Fisheries	CEFAS
Designated Shellfish Waters	Fisheries	Dorset Coast Forum
Shellfish fisheries	Fisheries	Portland Gas Ltd

Dataset	Theme	Source
Fish Nursery Areas - Sole	Fisheries	CEFAS
Fish Nursery Areas - Whiting	Fisheries	CEFAS
Fish Nursery Areas - Lemon Sole	Fisheries	CEFAS
Fish Nursery Areas - Mackerel	Fisheries	CEFAS
Fish Nursery Areas - Plaice	Fisheries	CEFAS
Fish Spawning Areas - Lemon Sole	Fisheries	CEFAS
Fish Spawning Areas - Plaice	Fisheries	CEFAS
Fish Spawning Areas - Sole	Fisheries	CEFAS
Fish Spawning Areas - Sprat	Fisheries	CEFAS
Depth Areas	Geophysical	SeaZone
Depth Contours	Geophysical	SeaZone
Bathymetry - SeaZone		
Bathymetry - DORIS		
Seabed bedrock geology	Geophysical	SeaZone (BGS source)
Sediment Type	Geophysical	SeaZone (BGS source)
Biotopes	Geophysical	DCF
Seasonal Water Column Features - autumn	Geophysical	JNCC - UKSeaMap
Seasonal Water Column Features - spring	Geophysical	JNCC - UKSeaMap
Seasonal Water Column Features - summer	Geophysical	JNCC - UKSeaMap
Seasonal Water Column Features - winter	Geophysical	JNCC - UKSeaMap
Wave Buoys and Tide Gauges	Geophysical	Dorset Coast Forum
Seabed landscapes	Geophysical	JNCC - UKSeaMap
Coastline Geology, Geomorphology and Erosion Trend	Geophysical	European Environment Agency

Dataset	Theme	Source
Pipelines	Infrastructure	SeaZone
Portland Gas Pipeline - 500m no anchor zone	Infrastructure	Portland Gas Ltd
Portland Gas Pipeline - Limits of Deviation	Infrastructure	Portland Gas Ltd
Portland Gas Pipeline - Planned Route	Infrastructure	Portland Gas Ltd
Cable Areas	Infrastructure	SeaZone
Submarine Cables - Telecoms	Infrastructure	Dorset Coast Forum
Submarine Cables - Other	Infrastructure	SeaZone
Overhead Power Cables	Infrastructure	SeaZone
Coastal Land ownership	Land Ownership	DCC
MOD Leasehold Land	Land Ownership	DCC
MOD Owned Land	Land Ownership	DCC
Marine Industries	Land Use	British Marine Federation and Dorset Coast Forum
Coastal Land Use	Land Use	EROCIPS
Natural Areas	Landscape	Natural England
Marine Natural Areas	Landscape	Natural England
Riverine Inputs	Marine Inputs	Dorset Coast Forum
Military Establishments	Military Activities	Dorset Coast Forum
QinetiQ (ex DERA) Establishments	Military Activities	Dorset Coast Forum
Army Firing Ranges (land and sea)	Military Activities	DCC GIS team and Dorset Coast Forum
Military Training Areas (land)	Military Activities	Dorset Coast Forum
Military Practice Areas (sea)	Military Activities	SeaZone
Submarine exercise areas	Military Activities	SeaZone
Offshore testing ranges	Military Activities	SeaZone

Dataset	Theme	Source
Actual aggregate extraction areas	Mineral Extraction	DCF
Licensed / leased aggregate extraction areas	Mineral Extraction	SeaZone
Aggregate wharfs	Mineral Extraction	Dorset Coast Forum
Dredger Transit Routes	Mineral Extraction	British Marine Aggregates Producers Association
Oil and Gas Wells drilled	Oil and Gas	Oil & Gas UK DEAL
On-shore hydrocarbon fields	Oil and Gas	Department of Energy and Climate Change.
Licensed and Unlicensed Blocks Offshore	Oil and Gas	Department of Energy and Climate Change.
Licensed Blocks Onshore	Oil and Gas	Department of Energy and Climate Change.
Strategic Environmental Assessment (SEA) areas (offshore)	Oil and Gas	Department of Energy and Climate Change.
Gas pipelines	Oil and Gas	National Grid
Gas sites	Oil and Gas	National Grid
Harbour Limits	Policies	Portland Harbour Authority
Policy 5 - Environment	Policies	Portland Harbour Authority
Policy 8 - Nature Conservation	Policies	Portland Harbour Authority
Weymouth and Portland Adopted Local Plan 2005 - Area of High Archaeological Potential	Policies	Weymouth and Portland Borough Council
Localised strong current areas	Renewable Energy	Dorset Coast Forum
Tidal Energy Resource	Renewable Energy	Department for Business, Enterprise & Regulatory Reform
Most likely route to IoW OWF	Renewable Energy	Dorset Coast Forum
Round 3 Windfarm zones	Renewable Energy	The Crown Estate
Anchor berths	Shipping & Navigation	SeaZone
Harbour Administrative Areas	Shipping & Navigation	SeaZone
Bad weather refuge anchorages	Shipping & Navigation	SeaZone

Dataset	Theme	Source
Bunkering (Refuelling locations)	Shipping & Navigation	Portland Harbour Authority Limited / Seazone
Ferry Routes	Shipping & Navigation	Dorset Coast Forum
Ferry Terminals	Shipping & Navigation	SeaZone
Marine Environmental High Risk Areas (MEHRA's)	Shipping & Navigation	DCC GIS drive
Ports	Shipping & Navigation	DCC GIS drive - substantially modified by DCF
RoRo-terminal	Shipping & Navigation	SeaZone
High Speed Craft zones	Shipping & Navigation	SeaZone
Lighthouses	Shipping & Navigation	Dorset Coast Forum
Beacons	Shipping & Navigation	SeaZone
Buoys	Shipping & Navigation	SeaZone
Traffic Separation Zones	Shipping & Navigation	Department of Energy and Climate Change.
Shipping Density	Shipping & Navigation	http://www.shipais.com
All Ship Routes	Shipping & Navigation	http://www.shipais.com
Cargo Ship Routes	Shipping & Navigation	http://www.shipais.com
Dive Vessel Routes	Shipping & Navigation	http://www.shipais.com
High Speed Craft Routes	Shipping & Navigation	http://www.shipais.com
Local Traffic Vessel Routes	Shipping & Navigation	http://www.shipais.com
Military Vessel Routes	Shipping & Navigation	http://www.shipais.com
Other Shipping Routes	Shipping & Navigation	http://www.shipais.com
Passenger Vessel Routes	Shipping & Navigation	http://www.shipais.com
Sailing Vessel Routes	Shipping & Navigation	http://www.shipais.com
Tanker Vessel Routes	Shipping & Navigation	http://www.shipais.com
Towing Vessel Routes	Shipping & Navigation	http://www.shipais.com

Dataset	Theme	Source
Boat trips and boat hire	Tourism and Recreation - Activities	Dorset Coast Forum
Coasteering Areas	Tourism and Recreation - Activities	Dorset Coast Forum
Fossil hunting areas	Tourism and Recreation - Activities	Dorset Coast Forum
Geo Highlights	Tourism and Recreation - Activities	Dorset Coast Forum
Hang gliding and paragliding sites	Tourism and Recreation - Activities	Dorset Coast Forum
Kayak Tours	Tourism and Recreation - Activities	Dorset Coast Forum
Pedalo and Surf Ski Hire	Tourism and Recreation - Activities	Dorset Coast Forum
Rock Climbing Areas	Tourism and Recreation - Activities	Dorset Coast Forum
The Fleet - Fishing Restrictions	Tourism and Recreation - Angling	Dorset Coast Forum
Bathing Beaches	Tourism and Recreation - Beaches	Dorset Coast Forum
Blue Flag Beaches	Tourism and Recreation - Beaches	Dorset Coast Forum
EU Listed Bathing Waters	Tourism and Recreation - Beaches	European Environment Agency
Viewpoints	Tourism and Recreation - Infrastructure	OS Maps / Air photos
MOD Permissive Paths	Tourism and Recreation - Walking	DCC
Pleasure Boat Exclusion Zones	Tourism and Recreation - Watersports	SeaZone
Portland Harbour Buoyed Safety Fairway	Tourism and Recreation - Watersports	Portland Harbour Authority
Anchorages	Tourism and Recreation - Watersports - Sailing and Cruising	SeaZone
Marinas	Tourism and Recreation - Watersports - Sailing and Cruising	Dorset Coast Forum
Possible Olympic Sailing Areas	Tourism and Recreation - Watersports - Sailing and Cruising	John Tweed, Olympic Sailing Academy
Racing areas	Tourism and Recreation - Watersports - Sailing and Cruising	RYA
Sailing areas	Tourism and Recreation - Watersports - Sailing and Cruising	RYA

Dataset	Theme	Source
Small craft mooring areas	Tourism and Recreation - Watersports - Sailing and Cruising	SeaZone & Portland Harbour Authority
Yacht Cruising Routes	Tourism and Recreation - Watersports - Sailing and Cruising	RYA
Yacht Harbour and Marina Areas	Tourism and Recreation - Watersports - Sailing and Cruising	SeaZone
Voluntary No Anchor Zone – Studland Bay - Buoys	Tourism and Recreation - Watersports - Sailing and Cruising	Dorset Coast Forum
Voluntary No Anchor Zone – Studland Bay	Tourism and Recreation - Watersports - Sailing and Cruising	Dorset Coast Forum
Surfing Areas	Tourism and Recreation - Watersports - Surfing	Dorset Coast Forum
Water Skiing Areas	Tourism and Recreation - Watersports - Water Skiing	SeaZone / Dorset Coast Forum

APPENDICES

APPENDIX 7: CONSULTATION REPORT

Kimmeridge Bay

CONSULTATION AT DORSET COAST FORUM 18 MAY 2010 WORKSHOP FEEDBACK

The following tables provide a written record of the consultation responses prepared by facilitators. Further information has been included following internet based research to provide detail, in particular in relation to cultural heritage.

QUESTION 1 - PERCEPTIONS

- Generally images of the Dorset coast are really important for marketing Dorset as a tourism destination. Images of pines have exotic associations (Mediterranean).
- Buildings were painted in towns to attract visitors in Victorian times and early 20th century.
- Perceptions of the character of the Dorset Coast and coastline are determined by weather and seasonal variations – consider temporal aspects in determining character.
- The sea conditions determine activities, operations and business – again consider temporal aspects.
- Weather conditions are a key determinant of seascape character.
- Noise and smell are important perceptions.
- Light quality makes the coast change daily – reflections from the sea, the white cliffs, reflections of lights from France even.
- Light quality affects the colour of cliffs especially sandstone cliffs which can change from greyish yellow right through to bright orange depending on light.
- Distinctive cloud patterns – could be cloudy over the Isle of Wight and sunny over Bournemouth. Sea breeze patterns expressed in cloud patterns. Often foggy in the west of the County. Portland relatively free of fog.
- High levels of sunshine in the County.
- Clarity of water – mostly good but silt laden rivers around Hengistbury to Highcliffe where the Avon and Stour discharge causes visible water turbidity at times of high rainfall. Poole Harbour is very silty, Portland Harbour water is very clear.
- Boundaries – races at Portland Bill, St Alban's Head and Old Harry's Rocks result in clear lines in the sea – dolphins use these lines as the waters are mixing. Also distinctive bird migration routes which create lines at certain times of the year (east-west to the Fleet; north-south to Europe and beyond). Races at Portland and St. Alban's - dictate sailing/shipping - determine what you can travel and when.
- Complex tidal patterns lead to double lows at Portland and Weymouth (very low tidal range so useable at all tides); double highs elsewhere.
- Fish species – transitional area between western species and channel species.
- Imperial Airways relocated flying boats to Poole Harbour in WW2.
- Airspace over Dorset quiet except light aircraft and helicopters- concern for bird disturbance when fly low and should enforce restrictions especially over the Fleet.
- Boating activities are zoned in Poole Harbour and around Portland (Portland Harbour office has information).
- Fishing boats and activity out to sea adds interest!
- MOD ranges - unspoilt since WW2.
- Army ranges have significant impact on access and perception.
- Littoral zone – Dorset has diverse marine life.
- Barrow Down area/Old Harry Rocks and the Needles - aerial views give a strong sense of the geological history and wow land was 10,000 years ago.
- Able to see what is special about the Dorset Coast from the sea.
- Bottle Nose dolphins off Durlston are an important part of the character, as are the kittiwakes.
- Quintessential Englishness of many of the smaller ports & harbours in the area.
- Viewpoints are not just from the sea.
- Activities include: beach combing, fossils, at sea less diving because of impacts on reefs from mobile fishing gear, potting/scalloping, some

good reefs left, SAC covering large area, and Fishing/angling/wildlife.

- Historic environment – important cultural associations with historic quarrying, field patterns etc.
- Quarrying along coast especially at Portland and on Purbeck (e.g. Dancing Ledge) due to ease of loading onto barges and transport e.g. to London.

Purbeck

Geology underpins the landscape and cultural character of Purbeck.
Heavy tourism use is a characteristic of Purbeck in the summer especially. Ranges from heavy use of "honeypot" sites to specialist use of outdoor environment, eg for walking, climbing, sailing, diving, cycling.
Purbeck ridge is key feature.

St Alban's Head - historical context for sailors - 1st landfall for many migrating birds.

Charmouth – outstanding fossils

Chesil Beach and Fleet - at Abbotsbury; very fragile - no vegetation. Plants/birds/tranquillity/no traffic noises make it a special place. Also has the most westerly shrubby sea blite population in the UK.

Flora and fauna are key features – both marine and brackish.
View of fishermen (anglers) on Chesil Beach is powerful.

Upper - part of the Fleet is tranquil with less access to Chesil Beach.
Old wooden huts on banks of the Fleet.

Caravan site at Moonfleet at upper end of the Fleet.

Small amount of recreation in the Fleet but important for Bass nursery, seabirds and the Swannery.

Quite busy in some ways at both ends of the Fleet with pockets of recreational pressure.

Exposed to weather systems (wave and wind) and flood risk.
Literary connection on Chesil Beach.

Shallow waters – anglers – many anglers on Chesil beach, both on the beach and offshore in east Lyme Bay. Many other activities in the areas.

Seacombe Cove – area of caves, quarries etc; destination for tourists, rock climbers and other outdoor activities.

Swanage – Swanage and Durlston – area popular for its cliffs and seabirds and country parks.
Swanage seen as a hub of outdoor recreational activities and countryside pursuits.

Centre for divers throughout the year.

Centre for chartering of fishing vessels but other coastal locations as well. Usual season seen as being between May to November.

Studland – wilderness of the beach.

Studland has lots of power boats.

Studland can be very busy at certain times of the year but is generally not like Poole or Bournemouth.

Perhaps a different character type for Studland, rather than coastal waters.
Eel grass issue in Studland anchor damage and protection of seahorses (experimental area).

Ringstead Bay – popular destination for gliding and naturists.

Kimmeridge Bay – experiences difference uses in the summer compared to the winter months.

Used to be a peaceful place to go windsurfing - now crowded due to publicity of it being a good area to go.

Wave cut platform – renowned for marine life.
West Bay – (un)natural harbour. Ropes exported from here around the world.

Portland

Harbour receives large ships.

Portland Harbour wall - packed with birds and wildlife; sense of peace; can hide behind walls and feel safe.

Portland Harbour has strong associations with the processes of war; incarceration of prisoners.

Change in sea surface between Portland Harbour (still and protected) and the Portland Race (very strong tidal current) are significant.

Stone excavation at Portland and Worth are important heritage aspects that have shaped the landscape.

Closure of Navy Base - 80s - busiest Navy base in Europe. Now mostly replaced by recreation.

Fortifications associated with Portland - waves of change.

Portland Harbour – is changing and actually looks quite built up because of the dominance of the sea wall which can be seen from a long distance away (Durdle Door).

Portland Harbour has much activity, recreation. 2 castles, MOD and much military/navel history.

Sea bed very different in Portland Harbour quite deep with sea pens etc.
The breakwater is dominant, the harbour is naturally sheltered, the Fleet is the largest saline lagoon in UK and also has MOD activity – firing ranges at Chickerell.

Poole

Harbour receives large ships

Poole Harbour – all encompassing - every feature you would expect within a marine environment apart from the Sandbank/race.

'Sense of White Cliffs of Dover' when coming into Poole Harbour.

Flying boats of Poole Harbour http://www.pooleflyingboats.com/about.html - ship building and D Day.

Ice cream vendor boat in Poole.

Newfoundland trade; Poole's importance declined with the Wool trade, but was saved by the Newfoundland trade. This was a three-cornered route whereby ships went out to Newfoundland loaded with salt and provisions, brought salt fish back to the Mediterranean countries and finally came home with wine, olive oil and dried fruits. From the beginning of the 17th century Poole was one of the main ports of this trade. This trade declined in the early 19th century.

Poole is a natural harbour and provides shelter.

Poole Harbour is not all the same - needs more detail in the characterisation the west of the harbour is much more secluded and less active than the East.

Islands in Poole Harbour are important – historical significance, important for wildlife, less built up.

Poole Harbour has multiple leisure uses, commercial uses, Fishermen. Oil - BP.

Shambles - **pile of 'bumps'** - rough water at sea and industry built around it.
Lyme and Weymouth – bays provide sheltering and anchoring for ships. Tall ships found in Weymouth.

More freighters anchored out in this area since recession (Lyme Bay & Weymouth Bay).

Lyme Bay area - more recovery/regeneration of the reef.

Bridport – rope making industry associated with flax growing.

Lyme Regis – whilst located adjacent to coastal waters, it was felt the activity at Lyme Regis is actually quite noisy, including noise from boats when people use incorrectly (ie directing exhausts out of water) – overall impact on tranquillity.

Perception also varies depending on direction of view – ie when located on the beach, inland activity can be vibrant with children playing, noisy, even disturbing at times, but when looking out to sea, the vast expanse of water with very little going on, and panoramic views along the coast contributes to a very natural character and sense of tranquillity. Views towards the cliffs along the coast from Lyme Regis and towards Chesil Beach and Portland to the east and Torquay to the west, with no interruptions, also contribute to a sense of wilderness.

It was noted, however, that these perceptions vary greatly depending on the time of the visit – ie significant seasonal variations, as well as day to day variations depending when activities are more intense. The overall view was that Lyme Regis has a 'loud' character, whilst Chesil Beach is definitely quiet.

West of the Cobb at Lyme Regis there are many large fossils. Whilst fossil hunting is a major recreational activity along the coast, it brings with it some side effects – one identified by the group was the persistent loud clink of hammers!

Has recharged sandy beaches – popular seaside resorts whose beaches need to be serviced. Likewise Chapman's Pool.

Outstanding fossils.

Bournemouth – numerous powerboat shows take place in Bournemouth which contribute to the busy character of the area – shows watched from Pier. Overall it was felt that the urban areas definitely had a 'busier' character.

Bournemouth (Hurn) airport the first intercontinental airport in UK pre-dating Heathrow.

Bournemouth cliffs – hang gliders.

Bournemouth has recharged sandy beaches – popular seaside resorts whose beaches need to be serviced. Likewise Chapman's Pool.

Poole/Bournemouth end is crowded. Sense of relief when go west. Likewise, if go from Durlston to the East get a feeling of it being busier.

Coast Roads – it was also noted that perceptions from the coast roads down to the beaches and cliffs and out to see were very important, and contribute to the overall sense of either being quiet/loud etc.

3157 coast road views - beyond Dorset. No admin boundaries.

Conservation hotspots – St Alban's to Durlston Head provides an excellent environment for birds. It was noted that most people will drive to car parks, often remain in their car, and if they do walk, it is often only for half a mile or so each way along the coastal path. Therefore, areas between the car parks are often very remote. In these quieter areas, the environment is good for sea birds.

Honeypots – High points on coast are honeypot for walkers – people often aim for these to get panoramic views – many good high points and views along coast dramatic. Some archetypal such as Lulworth Cove, Old Harry's Rocks etc – also links to Isle of Wight Needles shows how Solent drowned etc. These are 'living' evidence of changes.

Features along the coast include wave cut platforms, Kimmeridge Ledges, the Golden Cap (between Lyme Regis and Bridport – great rocky shoulder of the Golden Cap offers views at every compass point, being the highest point on the south coast), Lyme Cobb.

Features:

- Hardy Monument on Black Down between Portesham and Martinstown – erected by public subscription in 1844. Erected in memory of Vice Admiral Sir Thomas Masterman Hardy. Hardy was captain of HMS Victory during the Battle Of Trafalgar. Admiral Nelson was shot as he paced the deck of Victory with Hardy. Nelson was carried below, and at some point as he lay dying Nelson is supposed to have said "kiss me Hardy." Vice Admiral Hardy was born in the village of Portesham in Dorset, less than a mile from the monument which was built in his honour five years after his death in 1839. He was a distant relative of the novelist Thomas Hardy, who would have been able to see the monument from the window of his cottage in Higher Bockhampton as he worked on Under The Greenwood Tree, and Far From The Madding Crowd in the 1870s. Today the view is blocked by trees.
- Corfe Castle
- Nodding Donkey at Kimmeridge - iconic Wytch Farm
- Clavell Tower
- St Catherine's Chapel, Abbotsbury
- Durlston Castle
- Portland
- St Aldhelm's/St Alban's Head
- Kimmeridge Tower
- Forts at Portland
- Portland gas facility
- Portland lighthouses
- Portland breakwaters
- Portland Castle
- Coastal watch towers
- Piers
- Cobbs – at Lyme Regis and West Bay
- Hengistbury Head
- Trees on Colmers Hill, Symondsbury
- Sea quarries at Purbeck and Portland
- Cranes at Portland for fishing boats
- Sandsfoot Castle
- Agglestone rock at Studland
- Distinctive landmarks – Henry VIII castles at Portland and Sandsfoot and Highcliffe Castle – castles form important landmarks in the landscape

Public holidays – it was noted that during public holidays boat activity increases along the coast, often extending near to the cliffs.

QUESTION 2 - CULTURAL ASSOCIATIONS

- Pirate Harry Paye - 1400s - Poole. Harry Paye's life is celebrated in the annual Harry Paye Charity Fun Day parade held in Poole every June.

- Thomas Hardy – born in Dorset. Thomas Hardy (1840-1928) lived in Dorset for most of his life and the county was the inspiration for many of his books and poems. He was born in 1840 at Higher Bockhampton just outside Dorchester (known to Hardy enthusiasts as Upper Mellstock) in a cottage built by his great-grandfather in 1801. Whilst living here, Thomas Hardy wrote Under the Greenwood Tree and Far from the Madding Crowd. Thomas Hardy's Cottage was acquired by the National Trust in 1947 and is now open to the public. At the age of 16, Thomas Hardy was articled to a firm of architects in Dorchester (Hardy's Casterbridge) and he could have become an accomplished architect had he not chosen to concentrate on writing instead. He lived in London for five years before returning to Dorset. Thomas Hardy resurrected the old name of Wessex to describe the region in which he set most of his novels. In Under the Greenwood Tree, written partly while Hardy was staying in Weymouth, we are told "The scene was the corner of Mary Street in Budmouth-Regis, near the King's statue". Anyone walking in Weymouth's main shopping area will inevitably pass by the exact spot that he describes. In Far From the Madding Crowd, Sergeant Troy visits Budmouth Races on several occasions; the races used to be held at an area of Weymouth called Lodmoor, which is now part of an RSPB nature reserve. Similarly, there is a village called Overcombe, which overlooks Lodmoor. However, the village of Overcombe that features in Hardy's The Trumpet Major is based on Sutton Poyntz, a village a few miles to the east of Weymouth. The King also comes to Budmouth Regis for his holidays in The Trumpet Major, a novel set during the Napoleonic Wars, and the real King of that time certainly holidayed in Weymouth, the real Budmouth. The novel The Well Beloved is set on Portland (to Hardy, the Isle of Slingers), and the causeway linking Weymouth and Portland is clearly recognisable in the quote "Jocelyn prepared to leave and...set out from the stone house of his birth in this stone isle to walk to Budmouth-Regis by the path along the beach". The cottage (Avice's Cottage) which is thought to be the one in which Avice Caro, one of the main characters, was supposed to have lived, was at one time owned by Marie Stopes. It now houses the Portland Museum. Other places of interest in Dorset to Hardy fans will include Lower Bockhampton (Lower Mellstock), Bere Regis (Kingsbere), Athelhampton (Athelhall), Puddletown (Weatherbury) and Cerne Abbas (Abbot's Cernel) to name but a few.

- Wordsworth – his brother was the captain of ship that sailed in the Shambles - On the 5th February 1805, The Earl of Abergavenny sank one and a half miles off the coast of Weymouth in only sixty feet of water, hitting the notorious Shambles rocks near the south of Portland Bill. It was captained by John Wordsworth, brother of William Wordsworth, who lost his life in the disaster. John was impatient to set sail from Portsmouth, hoping to be the first ship to successfully navigate the new route to Bengal. However, stormy weather delayed departure and, whilst waiting for the pilot to board, the tide turned. Although John recognized the danger of moving a large ship across the rocks, it was the pilot's duty to navigate the course. At 5 o'clock the ship was driven by a strong ebb tide onto the Shambles. Distress signal guns were fired and John sent a boat to fetch help, but a damaged hull meant that the Abergavenny rapidly became waterlogged. There were over 400 people on board; 250 men lost their lives, through drowning or freezing in the waters. It is thought that John may not have attempted to save himself, but clung to the ropes of his ship until he drowned with it.

- Enid Blyton (many of books set on isle of Purbeck).

- Enid Blyton – holidayed in Purbeck 3 times a year for over 20 yrs. Dorset landmarks became places in her books - Whispering Island is based on Brownsea Island and Corfe bears a remarkable likeness to Kirrin Castle in the stories.

- Colin Dexter – novels based in Dorset.
- PD James – The Private Patient, The Black Tower (inspired by Clavell Tower).
- John Fowles – The French Lieutenants Woman.
- Jane Austen – Dorset was her home and Persuasion set there (Louisa Musgrove also reputedly fell off Lyme Cobb).
- William Barnes – Dorset was his home.
- Ian McEwan – novel On Chesil Beach.
- Laurie Lee.
- Daniel Defoe.
- T E Lawrence (Lawrence of Arabia) lived in New Forest; Tileshill Cottage , buried in Moreton. Motorcycled the coast.
- Rodney Legg – Dorset Publishing Company.
- Batsford books – publishing company.
- Studland – Toy Town in Noddy.
- Wareham Whalers - http://www.wareham-whalers.org.uk/ Around Easter 2004, Wareham Whalers was formed from an idea of Dave Wheatley. The plan was to form a shanty group that would keep the tradition alive around the river Frome and Purbeck in Dorset. A group of blokes started to get together in the local pub, have a few drinks and then decamp to one of their homes for a sing along. The drinking part was easy, the learning of songs was to take a little longer (Drinkers with a singing problem).

- Smugglers: In the Napoleonic war period a few of the south coast towns, notably Christchurch, exported gold, but so-called the 'guinea run' was never carried on to anything like the same extent as in Kent and Sussex. Where the tides were favourable, barrels could be roped together by the smugglers and rafted in from the open sea to the inland harbours with which the south-coast was so well supplied. This method was used to great effect at Portsmouth, Langstone and Chichester harbours, and to the west at Christchurch and Poole. Dorset and Hampshire smugglers caught in the act of sneaking their goods in would destroy the evidence or simply flee if they ran the risk of the gallows or transportation. Amazingly, some contraband made its way to London from as far afield as West Dorset: in 1719 a merchant at Lulworth was importing cocoa beans at a time when there was a taste for drinking chocolate only among the smarter London set.

  Some contraband travelled long distances inland for different reasons. Cargoes of brandy landed in Dorset in the early 19th century were of such poor quality that they were virtually unfit to drink, and the kegs were carted a safe distance from the coast to undergo a further distilling process, before being sold in the town taverns. Parts of the Dorset and west Hampshire coasts were flanked by untamed heath and woodland that made concealment easy and pursuit difficult. Some regions of the New Forest were effectively no-go areas, and once a cargo entered the Forest, it was usually safe from the clutches of the revenue men. Even Bourne Heath, where inoffensive Bournemouth now stands, had at one time a fearful reputation, and the dense woodland of Cranborne Chase was felled precisely because it provided a haven for smugglers and other undesirables.

  http://www.smuggling.co.uk/gazetteer_s_14.html

  http://www.bbccountryfilemagazine.com/feature/discover/discover-smugglers-dorset

If you'd lived on the Dorset coast in the 18th century, there's a good chance you'd have had a few scary nocturnal encounters with smugglers and wreckers. The beaches, bays, cliffs and coves are the backdrop to a gutsy and sometimes bloody history. And now you can follow in the footsteps of these ne'er-do-wells and discover an intriguing new side to this astonishing coast.

The journey begins among the thatched cob and sandstone cottages of Chideock, home of the Chideock Gang. With its fishing hamlet of Seatown, this now peaceful village saw more smugglers through the courts than any other parish in Dorset. It was off here that the last recorded smuggling of kegs occurred in the mid 19th century. A certain Bartlett was forced to drop his cargo in the sea and recover them by trawler six months later. Of 120 kegs, he lost just one.

The smugglers' favourite hiding place was St Gabriel's Chapel, away west over the hill in remote Stanton St Gabriel. Now a ruin, the chapel lies at the heart of a magical, time-warp landscape of flower- and butterfly-rich pastures and hedgerows beneath Golden Cap. At 191m (618ft) above sea level, this peak, named for its top-most band of sandstone, is the highest cliff on the south coast, with a panoramic 55-mile view from Start Point to Portland Bill.

It's a long climb to the top, but the most demanding aspect of walking the Dorset coast is that you then drop down to sea-level and have to repeat the process all over again. To the east the twin peak, Thorncombe Beacon, holds a replica of the fire-beacons lit to warn of the approaching Spanish Armada. Just beyond is a welcome descent to Eype's Mouth Country Hotel.

The precipitous cliffs in Purbeck let you look directly down into blue waters with the green and browns of kelp beds writhing with the tide. You are even treated to prehistoric experiences on the grand scale, particularly at the Fossil Forest just east of Lulworth Cove, with the stumps of ancient cycad trees just inside the tank gunnery ranges. Red warning flags are never lowered, but the Lulworth Range Walks are often open at weekends and during Army leave in August.

All paths lead to former fishing hamlet of Worbarrow and the ghost village of Tyneham, where the entire parish was evacuated six days before Christmas in 1943 so Sherman tank crews could be trained for the upcoming invasion of Europe. Still abandoned, it is a moving place that is worth a visit just for the atmosphere.

Midway between Lulworth Cove and Worbarrow Bay, at Mupe Bay, you can find a genuine smugglers' cave. Descend to the beach and follow the shingle shore to the right, around the ledges and Mupe Rocks to a gaping cavern. Note that Mupe Bay is within the Lulworth firing ranges so is sometimes closed to visitors.

On the Purbeck cliff-tops, the sheltered south-facing coastal slopes provide visual wallpaper redolent of Edwardian watercolours. In spring and summer, flora of orchids and scabious comes with a cast of butterflies that includes the Lulworth skipper. Down on inaccessible ledges are nesting cormorants and guillemots. Listen out for the "key, key, key" alarm call of the peregrine falcon and the "croak" of the raven.

One Dorset smuggler became both famous and respectable – to the extent of founding a bank – and was buried in style in Wimborne Minster. Isaac Gulliver (1745-1822) ran his own ships and ensured the efficient distribution of consignments by buying farms across the county.

Gulliver bought North Eggardon Farm, and with Poole associate John Fryer named their boat Eggardon Castle for its hillfort – now owned by the National Trust – on which he

planted a clump of pines as a seamark, which you can still visit today. Dying at Gulliver's House, Wimborne, he left an estate worth multi-millions in today's values.

Further east along the coast is wild and wonderful Kimmeridge Bay. Here, as recently as 1929, a half-anker keg with a six-pronged hook and 3m (10ft) long grappling pole were found in the boathouse – left by smugglers a century before. They now sit in the Dorset County Museum in Dorchester. The present beachside building houses an underwater Dorset Wildlife Trust marine webcam link to the adjacent nature reserve.

Above Kimmeridge is the nodding-donkey of the BP oil well that has been operational for half a century. Sulphurous shales and washed-up kelp give Kimmeridge a distinct seaside odour.
The parapet of Kinson church tower in the Bournemouth suburbs is gouged with grooves from ropes used to lift the kegs that were regularly stored there. Casks were also hidden in an ancient table-tomb. A nearby gravestone records the death of Robert Trotman, who was shot dead on the shore at Lilliput on 24 March 1765, "barbarously murder'd" during a pitched battle between smugglers and a Naval detachment, in which nine horses were also killed.

Smuggling gave Bournemouth much of its early history – before it developed into a Victorian new seaside town – such as the seizure at 'Bourne Mouth' of 411 casks of "spirituous liquors" (and a bag of tea) being carried off by 13 horses and three carts on 3 October 1785.

Seacombe Cove – associated with smugglers.

Isaac Gulliver - smuggler 1800s. http://www.thedorsetpage.com/history/smugglers/smugglers.htm.

- Education visits; especially geology - 200,000 visits/yr.

- Moonfleet, J. M. Faulker – Faulker spent much of his childhood in Dorchester and Weymouth. Uses the local geography of Dorset and the Isle of Wight in the book, only changing some of the place names. The village of Moonfleet is based on East Fleet in Dorset by Chesil Beach. The headland in the book called The Snout is Portland Bill.

- Christopher Wren – use of Portland stone in buildings – London churches, incl St Paul's and Buckingham Palace. Portland stone also used in the United Nations headquarters in New York.

- Portland stone influence on global architecture and Purbeck - Globe at Durlston.

- Sir Walter Raleigh retried with his wife to Dorset after he was released from the Tower of London – links with the Armada.

- Links with the Armada - Weymouth has been a port for many Centuries and evidence shows that Roman Galleys sailed up the River Wey as far as Radipole where they could be beached and cargo unloaded for transport to the Roman Town of Durnovaria (Dorchester). With the Roman capture of Maiden Castle having taken place in AD43 the estuary of the River Wey came into regular use as a port from about this date or just after, as the settlement at Durnovaria developed. Mention of the Port is made for the first time in 1100 when the ports belonging to the two local, and rival, towns of Weymouth and Melcombe Regis were granted to the Convent and Prior of St Swithin of Winchester. For those readers who do not necessarily know the distinction, Melcombe Regis was the town on the land between the Inner Harbour and the Sea where the main shopping centre now stands. A local charter of 1252 mentions the Port of Weymouth and in 1347 it supplied 15 ships and 263 mariners for the siege of Calais. During the 15th Century it prospered partly as a result of a substantial

trade in pilgrims sailing to Spain. A dispute as to the ownership of the harbour was settled by the amalgamation of the two towns adjoining the harbour, Weymouth and Melcombe Regis, in 1571. In 1588 ships were supplied for the fight against the Spanish Armada and an iron chest reputed to have come from the captured Portuguese ship, San Salvador, a squadron flagship of the Armada, is exhibited in the Time Walk Museum in Hope Square. A majority of the trade through the port was of coastal origin but many ships went further afield to trade with the Continent, Mediterranean, West Indies and North America.

- Llewelyn Powys – writer – born in Dorchester.

- George Burt - http://www.durlston.co.uk/index.php?id=168 Durlston was owned and farmed by various farmers and landowners but, in 1863, George Burt purchased a significant part of Durlston and a new era began. George Burt was born in 1816, and worked locally as a stone mason before moving to London, at the age of 19, to work for his uncle John Mowlem. Using his wealth, Burt played a major part in the plans to transform Swanage from an 'old world village' to a fashionable seaside spa.

  It was not until George Burt retired in 1886, that he turned his energies to developing further his estate with the newly commissioned Durlston Head Castle as its centrepiece. The Castle was constructed by a local builder, William Masters Hardy, and despite its traditional appearance, an iron frame lies behind its stone cladding.

  The Castle has always been used as a restaurant of sorts but, in 1890, the upper floor was used briefly as a signal station by Lloyds of London. Fired by a Victorian zeal for learning and the natural world, George Burt set about transforming the rest of his estate. The most spectacular of his many creations was the Great Globe. George Burt's developments were not confined to building work. His estate was landscaped and planted with a variety of plants from around the world and it is worth noting that 50 men were employed to maintain Burt's ' New Elysian landscape'.
  George Burt's plans for his estate were not entirely altruistic. Various plans were laid for a major residential development at Durlston and 88 plots of freehold building land were offered in 1891. Such schemes continued well into the 1920s but met with little success.

  The Victorian era was also a great age of fossil collecting. Durlston Bay, already famous for its geology, attracted the interest of W.R. Brodie whose initial finds in 1854 led to the large scale excavations by Samuel Beckles in 1857. According to the London Illustrated News he found ' 27 species of marsupial mammal about 16 of which are totally new to science'.

  The arrival of the railway in Swanage in 1885, and later transport developments including a steady growth in car ownership, saw Durlston becoming increasingly accessible to visitors. The sea views, Tilly Whim Caves, Durlston Castle and Great Globe were then, as now, major attractions.

- Historic land ownership has had a significant role in influencing development of the Dorset coast. A large number of estates controlled, and in some cases still control the area, allowing large sections of coastal path to be established. Many large tracts of land are now also owned by the National Trust.

- Dorset Seafood Festival held in Weymouth Harbour.

- Dorset Apple Cake, cream teas, Portland crab, mackerel.

- Magnet for celebrity chefs.

- Food - people come for seafood.

- Spirit of the Sea Festival, Weymouth and Portland – celebrates the areas close relationship with the sea, and brings together a

range of sporting activities, cultural events and entertainment.

- Fossil Festival, Lyme Regis - Dead... and Alive!' will celebrate the 2010 International Year of Biodiversity. Lyme Regis is one of the best places along the Jurassic Coast to explore modern biodiversity and the conservation of rare habitats, the history of life on our planet and the links between biodiversity and geodiversity. They must necessarily all be woven together if we are to fully understand our natural heritage. The Fossil Festival is a fascinating fusion of science and art.

- Gig racing - Gig racing is a more recent introduction to Dorset. Originating in Cornwall it is growing in popularity. Two rowing clubs in Dorset, Swanage Sea Rowing Club and Weymouth Rowing Club are actively involved in Gig racing. They have their own boats and take part in regional and national events.

- Dinghy sailing - Learning to dinghy sail on the sheltered waters of Poole Harbour in Dorset is the perfect way to have a hands on go at sailing. The centre is based right in the middle of one of the most beautiful sailing areas in the country which also happens to be Europe's largest natural harbour. Thanks to the natural harbour, the area is renowned for offering some of the UK's safest sailing waters and with expert tutors on hand to get you up and sailing the sea you're sure to have a great day at sea.

- RNLI - http://www.pooleview.co.uk/rnli.htm.

- National Coastwatch - The National Coastwatch Institution (NCI) is an entirely voluntary organisation keeping a visual watch along UK shores. Each station assists in the protection and preservation of life at sea and around the UK coastline. Currently over forty NCI stations are fully operational and manned by over 1700 volunteers keeping watch around the British Isles from Cornwall in the South West to Wearside in the North East. Located at Lyme Bay, Portland Bill, St Alban's Head.

- Great Dorset Beach Clean – volunteer event.

- Portland – many stories associated with this area; matriarchy for inheritance of property on Portland; Portland stone has been used all over the world for important buildings – Christopher Wren used in London, UN building etc. easy to transport by sea to London etc ; the first landings by Vikings to Britain were around Portland; Portland was the largest Victorian civil engineering project ever undertaken.

- Strong naval associations at Portland and Weymouth – first flights of planes off a cruiser by catapult; assembling American and Canadian troops for D Day; many of Nelsons' fleet captains came from Dorset coastal towns – ('Kiss me Hardy') came from Portesham - Admiral Hardy – Monument. Blackdown had a Napoleonic invasion warning beacon in 1804 776ft above sea level. Hence the hilltop selection for the memorial to Vice - Admiral Sir Thomas Masterman Hardy who was Nelsons flag captain aboard HMS Victory in October 1805. The monument can be found at Black Down, Portesham, Dorset; Torpedo and radar development and testing around Portland Harbour. Marconi associated with radar testing at Worth Matravers; Bailey bridge first developed and tested in Christchurch harbour at marshes at confluence of Stour and Avon.

- Chesil Beach – many cultural associations – Moonfleet (Faulkner), On Chesil Beach (McEwan), inspiration for a musical suite, Bouncing bomb practice runs here. The lerret – a traditional flat bottomed sailing boat associated with Chesil Beach and has often been depicted by artists.

- Poole Harbour – Scouts and Lord Baden Powell associated with Brownsea Island – first scouting camp held on the Brownsea Island.

- Paintings and artists – Turner – Poole Harbour, Weymouth and Lulworth castles; Augustus

John lived in Dorset and painted Thomas Hardy and TE Lawrence; Isle of Purbeck and Portland both associate with artists (understood to be on account of the distinctive landscape and, especially, the quality of light); famous artists associated with Dorset coast include Nash and William Turner – both painted the Isle of Purbeck. Bridgeport and West Bay – seen as focus for artistic community.

- J. M. W. Turner (artist) – strong association with the coast (Fisherfolk on the Dorset Coast, Poole – Distant View of Corfe Castle, Weymouth, Dorsetshire).
- John Constable (artist) – Gillingham Bridge, Dorset, 1823.
- Osmington. He painted the village, Osmington Mills, Weymouth Bay and Portland Bill. His best known painting of the area is Weymouth Bay that now hangs in the National Gallery, although it is actually a painting of Bowleaze Cove.
- Poetry – William Barnes (Dorset dialect).
- Films – many made on Dorset Coast – French Lieutenant's Woman (Lyme Regis), Thomas Hardy films – Tess of the D'Urbevilles some shot at Dancing Ledge. Monty Python (Studland) and the Goodies and any others esp. on Purbeck, Dambusters film shot around Studland and Portland.
- Langton Matravers – associated with Sculptors.
- Lyme Regis – centre for traditional boat building.
- First underwater photo taken under Swanage Pier.
- The Boat that Rocks – Portland.
- Celebrities in the area. Poole - Harry Rednapp.
- Paddle steamer - Waverley out of Swanage.
- Warships still in area.
- Swanage Pier - people love Piers.
- Swanage Steam Railway and traditional Victorian seaside resort.
- Swanage – fossils/geology – traditional field study location known internationally
- Swanage – The quality of the natural and built environment is a key reason for attracting painters/photography /artists, together with lack of light pollution.
- Portland Bill – still winch boats down cliff to fish.
- Chain ferry Studland iconic and links Poole to Purbeck.
- People continue to be inspired by coast artistically.
- Blue Pool and clay mines at Norden and tramways down to the old piers – clay/sand industry.
- Clay - Spanish/European exports from Purbecks down to Poole Harbour – was South side (Goathorn Pier) – now out of the Port.
- Roman settlements at Wareham.
- Village celebrations – eg. Abbotsbury.
- King George III at Weymouth – White Horse at Osmington.
- Mary Anning at Lyme – 1st Plesiosaur.
- Henry de la Béche – English geologist, pioneered survey techniques, supported Mary Anning.

- James Whistler, the famous American artist visited Lyme Regis in the summer of 1985 at the age of 61 years and painted two of his finest portraits, 'The Master-Smith of Lyme Regis' and 'The Little Rose of Lyme Regis'.
- Bonham Christie - Artist Brownsea.
- Joseph Bankes and Bankes family. http://en.wikipedia.org/wiki/Bankes.
- Corfe Castle - Civil War/ Poole Parliamentarian.
- Harbour Lights – West Bay.
- Studland Bay – Coldplay video.
- Reggie Perrin – opening scenes.
- Cliff Richard – Durdle Door.
- Dr Who.
- Steam railway.
- Purbeck film festival.

QUESTION 3 - CHANGES AND ACTIONS

Marine types:

In 2012 if derogation falls in Europe, fishing may expand to UK shores.

Flow of marine traffic can be an issue.

2012 Olympics - means that tourists are likely to increase – shorter term more intensive increase but also possible longer term effects.

Change in tourism demographics after 2012; more sailors = more upmarket facilities.
Port expansion:

- importing fuels from other countries.
- slipways – additions/repairs – activity currently largely focused around slipways – provides focus for activities .
- Poole harbour – currently access to sea is by large ships only – change may occur if size of vessels/boats alters? Scale of boats using area is very important.

Renewable energy – wind, waves, tide, gas. Energy driven change very prevalent in this area – wind farms, wave etc. Possible future wind turbines at Portland Harbour. Offshore windfarm development zone has the potential to impact upon crabs and lobsters.

Oil exploration – Bournemouth Bay.

Anchorage off the coast and other moorings.
Gas storage at Portland – offshore and onshore – power station, chimney stack, transmission lines (?)/underground cables – any issues in relation to connection on shore.

'Nuclear' pipe (undersea pipe) may be used again.
New Marine Conservation Zones are anticipated to bring about change in human interaction and affect usage of such areas.

Artificial reefs – eg. Scylla; wreck to reef project.

Surf reefs

More demand for sailing following 2012 windsurfing/water boarding etc.

Wrecks - finite - time limited iron and steel will become less prominent.

Aggregates extraction will grow. (French looking on midline).

Marine Act and Common Fisheries Policy - changes in use of harbour.

Economy – Ferries stopped at Poole (Brittany Ferries). Higher fuel prices to take boats out and more visitors to the area.

Coastal types:

Dorset's coasts seen as vulnerable to coastal erosion. Need to accept/recognise that change will occur but Dorset needs to be prepared for it.

Noted that agreements in relation to the timing/use of cliffs for climbing versus bird activity are very well defined – balance between this recreational activity and nature conservation interests is being addressed – need to ensure this continues.

Access to the coast along quite rural lanes is an issue (road to Seatown was identified).

New buildings on the eastern side of Portland.
The loss of boundaries along the coast has meant that some crops can migrate down cliff faces – impacting not only native vegetation, but also the colour of the cliffs when viewed from sea and adjacent coastal areas (yellow of rape very distinctive). It's a question of what appears 'natural' – debate over what is natural.

Recreation – varying issues, including:

- Glint of caravan roofs in longer distance roofs – though materials/colours seem to be improved.

- Expansion of caravan parks may be an issue – also increased issue as more people holiday in UK.

- Noted that a number of campsites are very 'natural' – ie single toilet etc – these are favourable in terms of impact upon the coastline.

- Erosion of footpaths – in particular when wetter conditions (ie at Chapman's Pool) – erosion is worse where there is a direct decent – area adjacent to the footpath are used, in turn widening the overall path/erosion etc – make ref to South Coast Path work/management.

- Water taxis along the coast.

- Proposals to sink a wreck in Weymouth – will possibly increase revenue for dive boats.

- Level of boat ownership continues to rise – with attendant spin offs and other effects.

- Stretches of the coastline have coastal defences. FFC is decision making process relating to coastal defences. Presently these are seen as being focused where there are car parks giving access to the coastline.

Litter – littering from ship is a particular problem in Chapman's Pool and Chesil Cave – often from cruise ships from the Caribbean. Plastic entering food chain is a significant concern – very small bits could work way through to human food chain!

Litter – litter is a problem not only during the summer months, but also during winter, when storms from the channel bring in litter from the sea. Around 90% of the waste is plastic. Problem areas seen as including Studland Bay, Chapman's Pool and Chesil Cove and others.

Oil spills – can cause a number of serious problems along the Dorset Coast.

Rotting dolphins – terrible odour from rotting dolphins.

Development within urban area/urban expansion:

- Boscombe has had quite a significant increase in tourism – note surf reef – an artificial reef developed. There have also been a number of new flats built that are visible from the beach.

- Environmental centre – could be scattered anywhere along coats – need to be located appropriately.

- Possible future Airport expansion.

- High rise flats in Poole Bay/Bournemouth.

New quarries on Portland.

Swanage – subject to fluvial erosion (as opposed to sea).

Much of coastline subject to erosion – needs appropriate management – erosion and landslides – continual and future FFC as a result of climate change.

FFC – identify areas most vulnerable to sea level rises.

Many of the sandy beaches are subject to coastal erosion (and sea level rises) eg Studland Bay. Weymouth relief road.

Coastline seen as being vulnerable to climate change – eg vulnerability of Chesil Beach. NOTE, Clavell Tower (Kimmeridge Bay) was physically relocated due to extent of coastal erosion.
Deer grazing on saltmarsh habitat a significant problem around Poole Harbour.

Changes in shoreline management practices.
More access by boats - coastal taxis and goods.
General Comments

- Ageing population - retirement and second homes changing dynamics and overall population increase.
- Greater lack of appreciation of the area - demographic changes mean people don't have the same connection to the land and sea.
- House price rises and broadband access.
- Traditional fishing in families.
- Military and coastguard helicopters.
- Potential for military areas to increase in size.
- Fishing – fish stocks, proposed SAC, MC2, proposed marine spatial planning area, change in species composition.
- Landscape designations eg AONBs may change.
- Type of employment – carers and tourism – low wages – need industry and commerce to provide better paying jobs – energy sector may offer a solution.
- Second home - sweeping west - Worth Matravers – possible future development as demand increases.
- Climate change – sea level rise/storms and frequency storm vents – implications for coastal/low lying towns – risk from storm surges and wave action.
- Climate change and commitment to reduce carbon emissions bringing about a pos reduction in flights and therefore more pressure to holiday at home.
- Water temperature change – divergence between sea and air temps noticed – sea average 2 degrees cooler then norm.
- Warming waters bringing about gradual change in variety of fish in coastal waters – leading to change in tourist activities eg more porpoise watching.
- Water cleanliness threatened by agricultural run-off – increase in nutrients esp in inland water areas – Poole Harbour and the Fleet.
- Agriculture – self sufficiency and local crops – diversification, biofuels (much more rapeseed), reduction in dairy will change landscape character, renewable – biomass.
- Commuting and road congestion – no motorways in Dorset.
- Maritime industries v important esp round Poole and Portland.
- Tourism - changes - more people - volatile industry – tourism and recreation have positive and negative effects.
- Limited routes to coast key to managing access and numbers of people using the coast. Walking good but the numbers of walkers causing problems in some areas.
- Coaches have been banned on some routes to keep some areas quieter.
- Access - roads - demand for better communication/infrastructure (small bad roads) or demand for public transport.
- Health benefits of outdoor recreation and walking important.
- Land management – 'Keystone' project on Purbeck – includes grants to manage marginal chalk grassland with hardy breeds to diversify species in grassland and also adds visitor interest.
- Industry and commerce needed in area for employment but could change landscape.

- Mineral extraction - positive benefits from restoration; negative landscape and visual during operations.
- Less ships, but larger.
- Weymouth town centre/Christchurch/Poole - flooding.
- Increasing availability of information and data - change activities according to what is available.
- Demand for education/knowledge.
- Park and rides - maybe more demand.
- Pylons built in some areas.

QUESTION 4 – BOUNDARIES AND NAMES

There were many issues raised in relation to the boundaries which were drawn for the marine types:

- It was agreed that in the Deep Water Offshore Shipping type there are many tankers and trawlers.
- It was noted that fishing stretches all the way across quiet intermediate waters, with diving extending far out into the channel where wrecks are located. Wrecks also attract fishing.
- French trawlers fish up to the 6mile limit despite licences up to 12 miles.
- It was noted that yachts cross over much of the area and pass into the channel.
- It was highlighted that diving and fishing areas vary due to tides etc.
- It was noted that resting boats are evident SW of Lyme Regis (6-8miles out to sea) and also off Torquay (though not in study area) – however, it is all transitory and time dependent.
- The group had difficulties in determining the physical characteristics of the marine environment as it is so dependent on weather etc, and that activities that are present also vary depends on tides/weather etc – this needs further clarification for all and emphasis on the scale of the assessment etc. Overall, they commented that there is a mix of activities across the marine environment and it is therefore difficult to split into areas.
- Coastal waters not very quiet – lots of small boats use these waters including anglers, jetskis and dive boats.
- 'Quiet' area (off Chesil) – has navy activity but no fishing activity (due to navy!)
- Definitely contrast between areas where larger ships and smaller boats.
- Influence and character of Poole Harbour extends beyond the breakwater – lots of ships lay off and fuel transfer in Weymouth Bay.

Marine

- Shallow water - should include for boats under 12m.
- Business and the rural areas seem to be characterised wrongly.
- Focused on human activities, not on environment, visual perception.
- The characterisation doesn't take account of physical environment in that Lyme Bay is more exposed than Weymouth Bay (higher waves in Lyme) yet sheltered in Weymouth (less waves). Significant change in character. As this often determines the activities.
- Sea bed characteristics different between the light blue areas and of Portland to west of Portland.
- There are areas that, underwater (sea bed) are larger and more characteristic.
- Capture links between physical and activities.
- Lulworth Ranges – impact on Coastal Waters.
- May need to graphically show main navigation routes to better indicate significance.

Coastal

- Unmanaged v managed.
- Some sandy beaches are mechanically cleaned.
- Shingle - fairly natural.

- Channel coast observatory have all the sediment data which is free to use.
- Slumped cliffs. East of Poole Harbour is soft cliff.
- Need to be higher resolution as many areas are mixed - a complex character.
- Might be areas where they are slumped on top but vertical below.
- Are the breakwaters at Portland Harbour referred to?

Names:

Names in relation to the cliffs needs to be reviewed – thoughts were that the already defined names of Simple Cliffs, Complex Cliffs etc should be utilised (formal definitions by the EA? Also refer to JNCC 95/96 – CC and EN – Global Conservation Review) Several members of the group were concerned about the process of using a combination of quantitative and qualitative data to draw lines on maps. Stressed that the sea is not static, and questioned how you could define an area so definitively. Others suggested that the areas should be colour graduated, to make it clear that these are 'fuzzy lines'. Emphasised we need to make that there is a transition between character areas very clear in the final document.

Issue of fuzzy boundaries to the edges – transitional areas.

ANY OTHER INFORMATION

Kathryn Dawson of the Dorset Wildlife Trust – kdawson@dorsetwildlifetrust.org.uk 01305 264620 Have undertaken inter-tidal survey from Portland to around Anvil Point which will feed into C Scope work – we can have access to all info.

Also recommended that we contact the Environmental Record Centre for marine database info, incl Doris info.

Portland Radar – ships over 15m have to have system for tracking – could be useful in plotting shipping movement if we require additional info.

Coastal Geomorphology – Vince May – useful guide for formal naming of cliffs

Daisy Sutcliffe – Jurassic Coast Arts Officer – would be a useful source of information

Admiralty Sailing Directions – (manual of seamanship) – shows land marks along the coast for sailors to look out for

Kerr McGee – undertook an environmental survey of Lyme Bay in preparation for drilling for oil in Portland – useful seabed survey – may have also incl plants on Chesil beach.

Shoreline Management Plan

Feel that the public should be made aware of other people's knowledge and perceptions; the positive and negatives ones.

FIGURES

Portland Bill

No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.
Sources: Ordnance Survey, Open Streetmap & Dorset County Council

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STATUS	FINAL	APPROVED	SS

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Study Area Boundary

12 Nautical Mile Territorial Sea Limit

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PROJECT TITLE
DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE
Figure 01: Study Area Boundary

DRAWING NUMBER 2880_01

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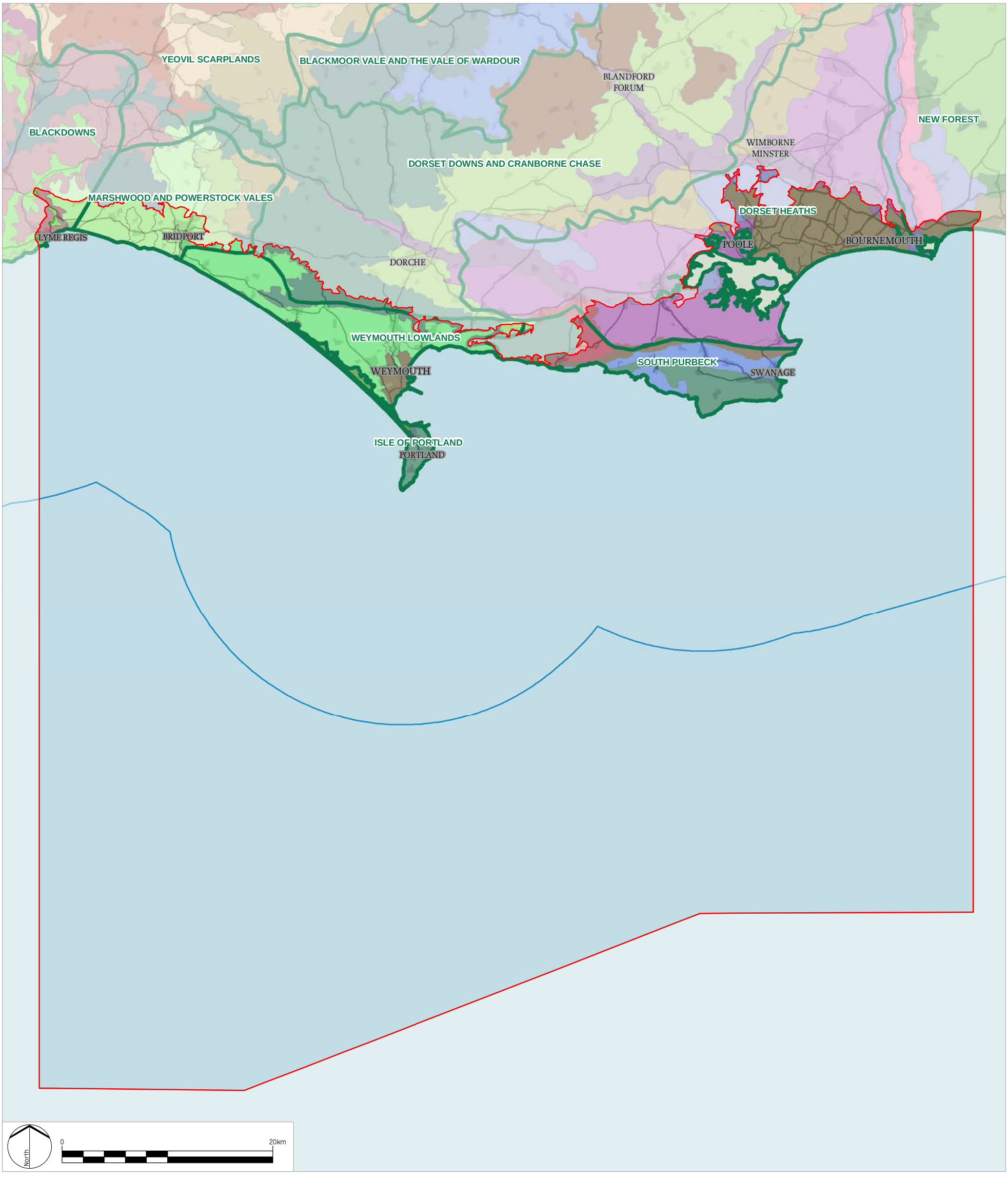

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Study Area Boundary

12 Nautical Mile Territorial Sea Limit

National Landscape Character Areas (areas named)

National Landscape Typology

LBD
LBN
LCA
LCD
LDO
LDS
LWW
RBA
RCA
RDS
RLN
UBA
UCW
ULN
ULO
Urban

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Figure 02: National Landscape Character Areas and Types

DRAWING NUMBER 2880_02

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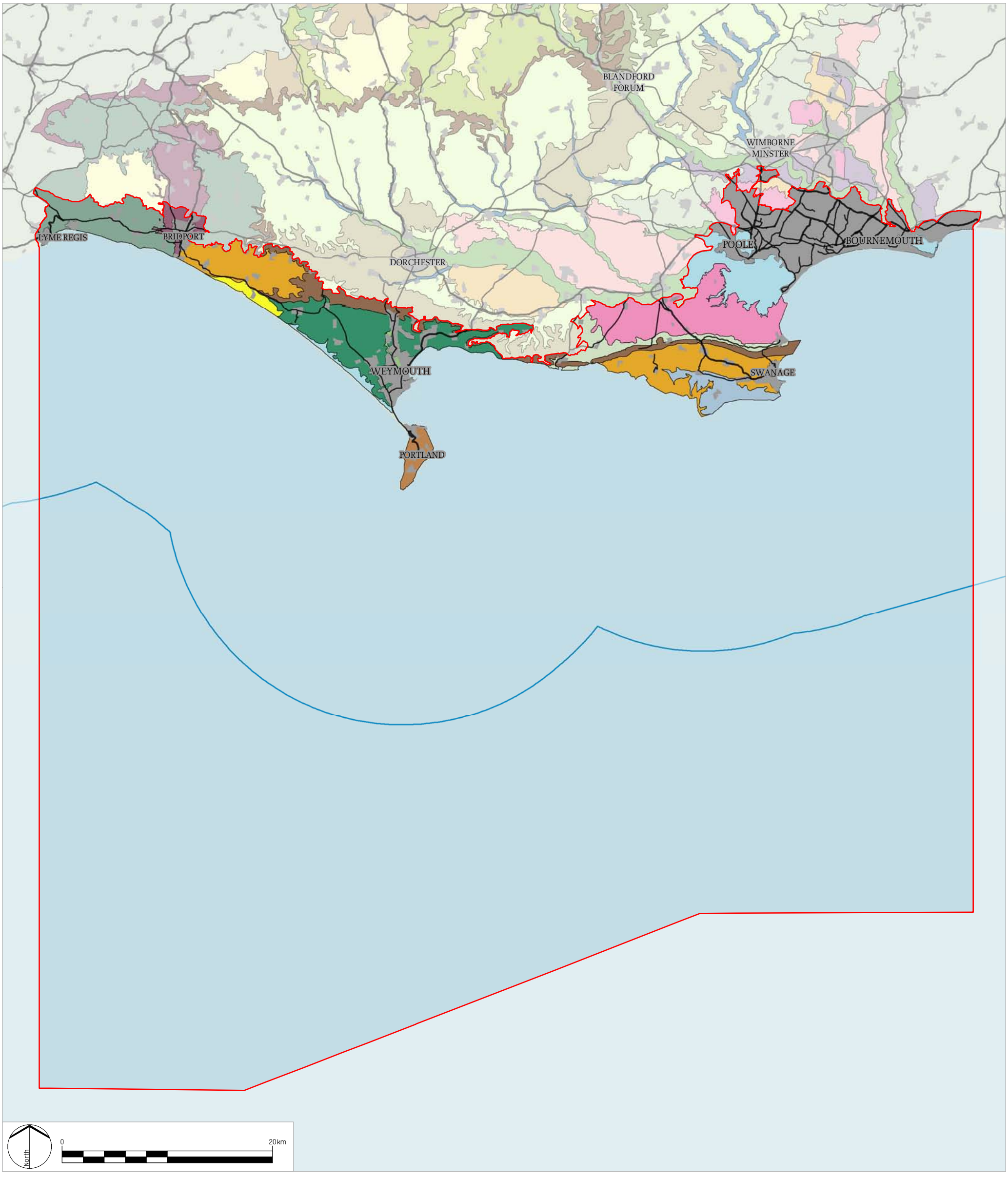

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Study Area Boundary

12 Nautical Mile Territorial Sea Limit

County Landscape Character Types

- Wooded Hills
- Undulating River Valley
- Clay Valley
- Coastal Grassland
- Ridge & Vale
- Harbour/Wetland/Lagoon
- Limestone Peninsula
- Valley Pasture
- Chalk Ridge/Escarpment
- Rolling Wooded Pasture
- Limestone Plateau
- Lowland Heathland
- Urban

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DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE

Figure 03: County Landscape Character Types

DRAWING NUMBER 2880_03

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Sources: Ordnance Survey, Open Streetmap & Dorset County Council

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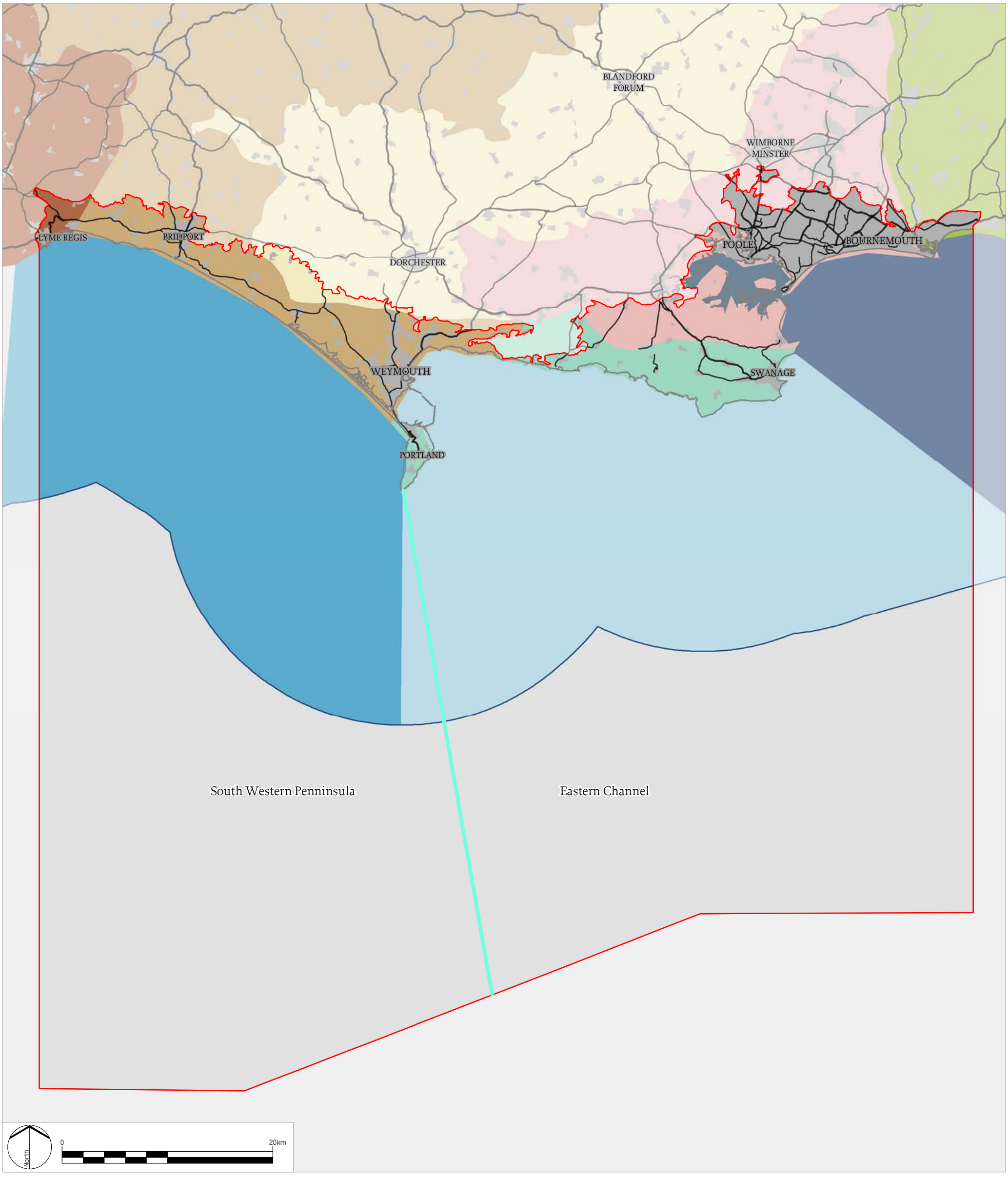

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Study Area Boundary

12 Nautical Mile Territorial Sea Limit

Marine Natural Areas

Coastal Natural Areas

109 - Solent - Poole Bay

110 - South Dorset Coast

111 - Lyme Bay

Unclassified Maritime Natural Area

Land Based Natural Areas

Blackdowns

Wessex Vales

South Wessex Downs

Isles of Portland & Purbeck

Dorset Heath

New Forest

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DRAWING TITLE

Figure 04: Coastal and Marine Natural Areas

DRAWING NUMBER 2880_04

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Sources: Ordnance Survey, Open Streetmap, DEFRA & Dorset County Council

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STATUS	FINAL	APPROVED	SS

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- Study Area Boundary
- 12 Nautical Mile Territorial Sea Limit
- Area of Outstanding Natural Beauty (AONB)
- Heritage Coast (non statutory)

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DRAWING TITLE
Figure 05: Designations - Landscape

DRAWING NUMBER 2880_05

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Sources: Ordnance Survey, Open Streetmap, Natural England, DEFRA & Dorset County Council

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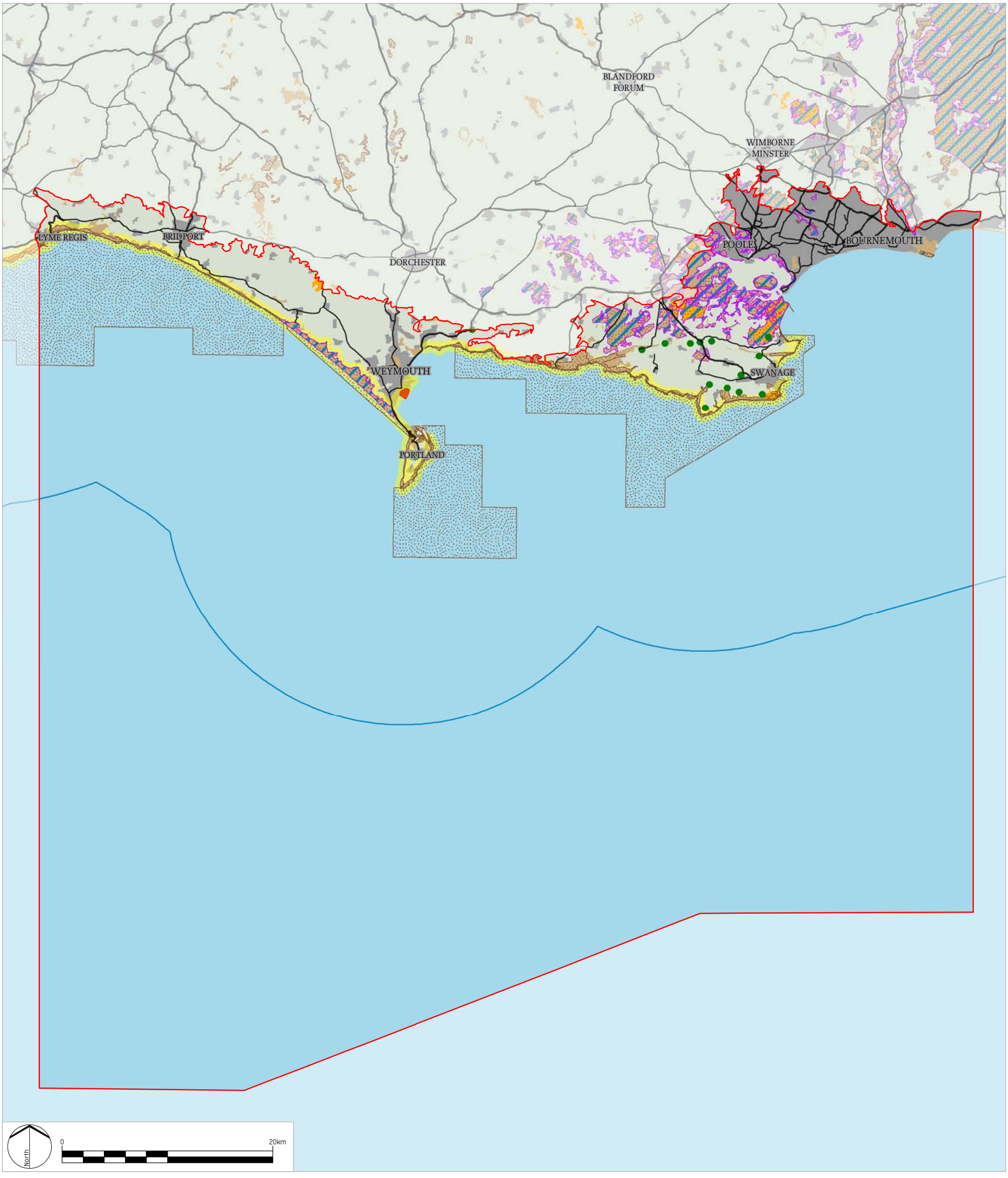

- Study Area Boundary
- 12 Nautical Mile Territorial Sea Limit
- RAMSAR
- Regionally Important Geological or Geomorphological Site (RIGS)
- Special Area of Conservation (SAC) (including possible SAC)
- Special Protection Area (SPA)
- National Nature Reserve (NNR)
- Site of Special Scientific Interest (SSSI)
- Protected Area for Overwintering Birds
- World Heritage Site (WHS)

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DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE
Figure 06: Designations - Biodiversity & Geology

DRAWING NUMBER 2880_06

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Sources: Ordnance Survey, Open Streetmap, English Heritage, SeaZone & Dorset County Council

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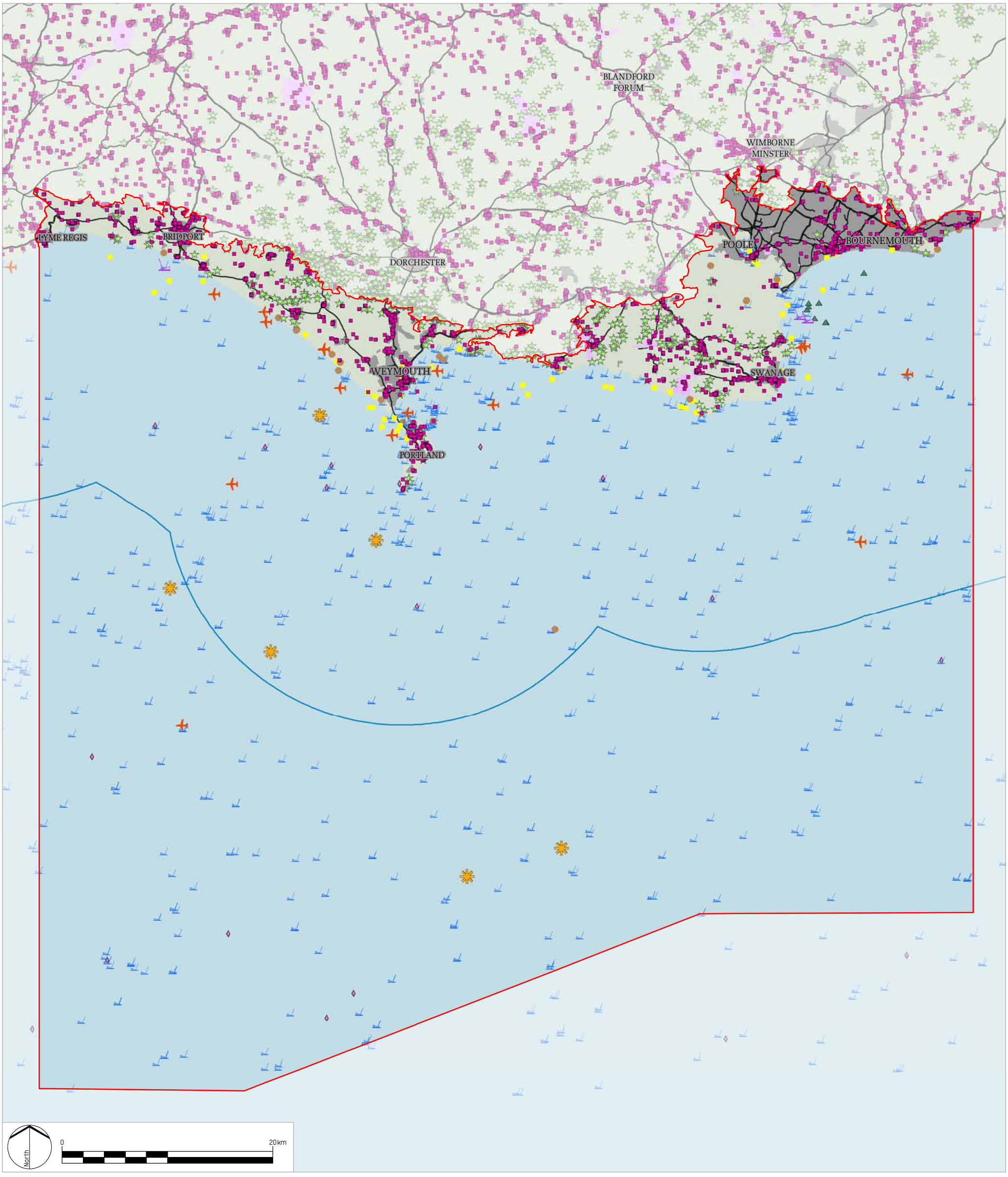

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- Study Area Boundary
- 12 Nautical Mile Territorial Sea Limit
- Protected Place (The Protection of Military Remains Act 1986)
- Protected Wreck (The Protection of Wrecks Act 1973)
- Aircraft Wreck Site
- Submarine Wreck Site
- Vehicle Wreck Site
- Other Wreck Site
- Submerged Structure
- Single Find
- Listed Building
- Scheduled Monument
- Registered Park & Garden

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DRAWING TITLE

Figure 07: Marine Heritage

DRAWING NUMBER 2880_07

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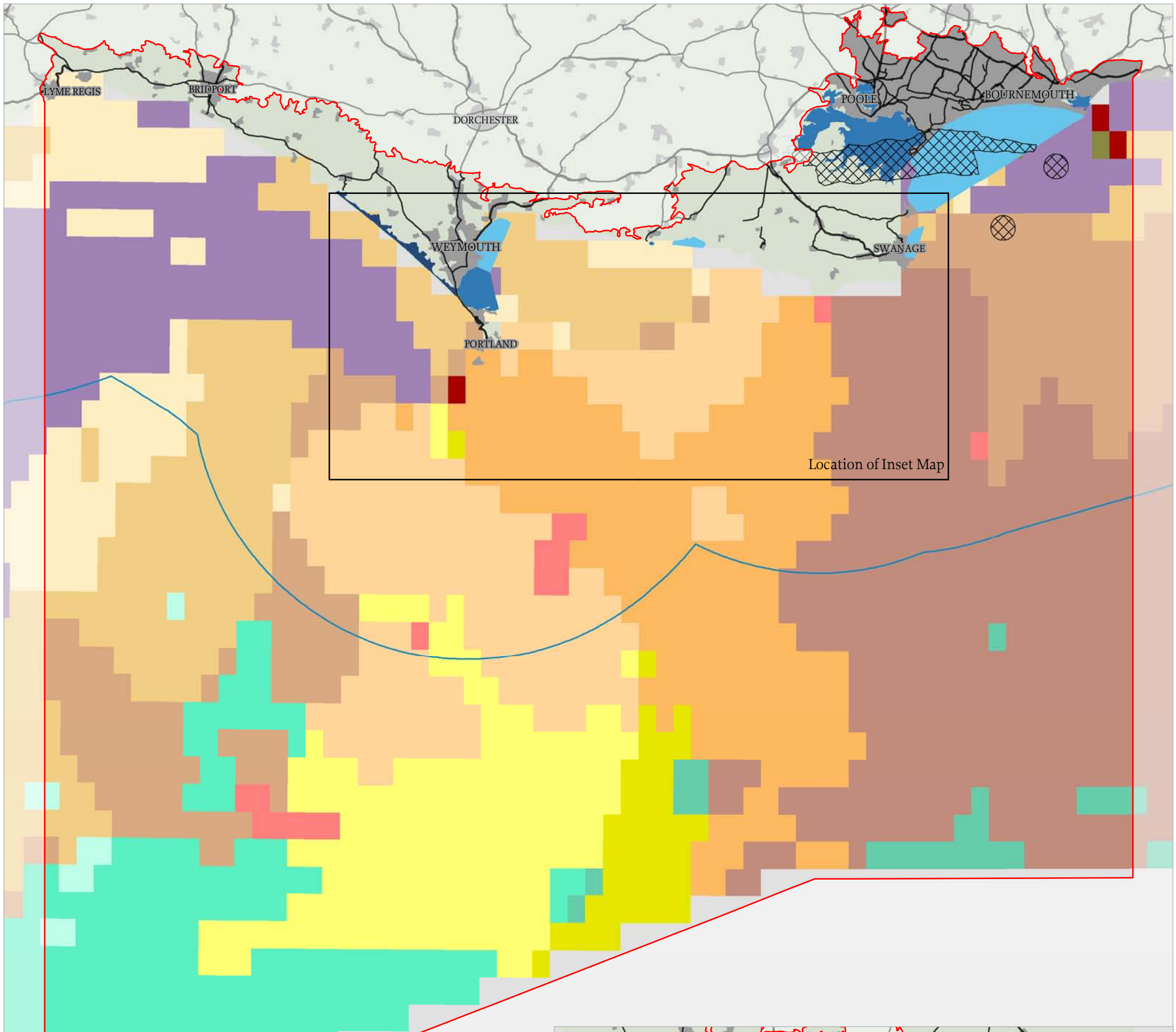

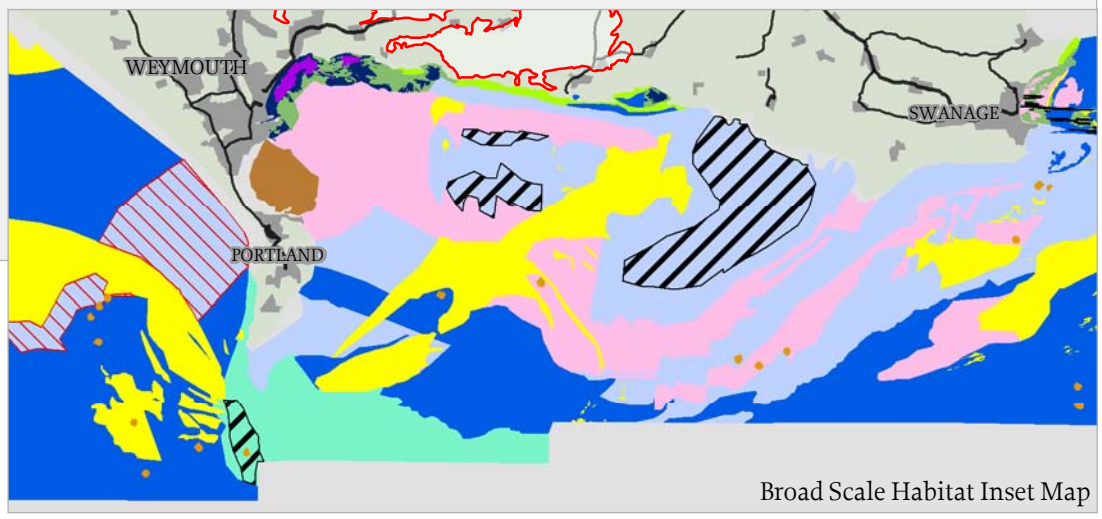

Study Area Boundary

12 Nautical Mile Territorial Sea Limit

Seabed Geology

Hydrocarbon Fields

Aphotic rock

Bay

Embayment

Lagoon

Photic rock

Shallow coarse sediment plain - weak tide stress

Shallow coarse sediment plain - moderate tide stress

Shallow coarse sediment plain - strong tide stress

Shallow mixed sediment plain - weak tide stress

Shallow mixed sediment plain - moderate tide stress

Shallow mixed sediment plain - strong tide stress

Shallow mud plain

Shallow sand plain

Shelf coarse sediment plain - weak tide stress

Shelf coarse sediment plain - moderate tide stress

Shelf coarse sediment plain - strong tide stress

Shelf mixed sediment plain - moderate tide stress

Shelf mixed sediment plain - strong tide stress

Broad Scale Habitat Inset Map

Features of circalittoral rock

Very tide-swept faunal communities

Sponges and anemones on vertical circalittoral bedrock

Moderate energy circalittoral rock

Low energy infralittoral rock

Moderate energy infralittoral rock

Circalittoral coarse sediment

Zostera marina beds on lower shore

Circalittoral sandy mud

Infralittoral fine mud

Circalittoral mixed sediment

Thin veneer of Circalittoral mixed sediment

Circalittoral fine sand

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DRAWING TITLE
Figure 08: Physical - Seabed Geology & Broad Scale Habitat

DRAWING NUMBER 2880_08

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Sources: Ordnance Survey, Open Streetmap, SeaZone & Dorset County Council

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Study Area Boundary

12 Nautical Mile Territorial Sea Limit

Elevation (m AOD)

260 - 280
240 - 260
220 - 240
200 - 220
180 - 200
160 - 180
140 - 160
120 - 140
100 - 120
80 - 100
60 - 80

Sea Depth (m AOD)

40 - 60
20 - 40
0 - 20
0 - 10
10 - 20
20 -30
30 - 40
40 - 50
50 - 60
60 - 70
70 - 80
80 - 90
Over 90

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DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE
Figure 09: Physical - Topography / Bathymetry

DRAWING NUMBER 2880_09

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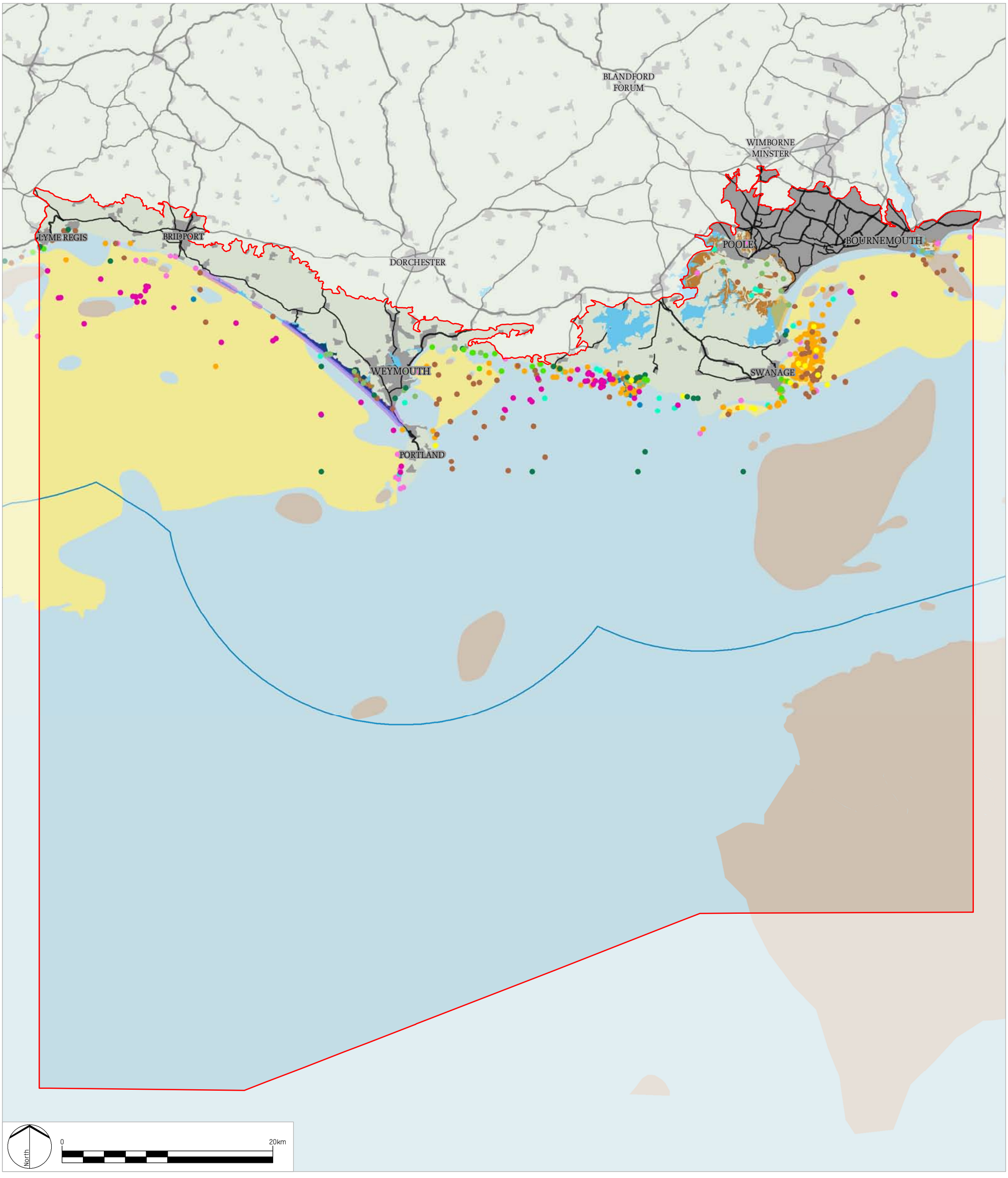

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- Study Area Boundary
- 12 Nautical Mile Territorial Sea Limit
- Brittlestar beds
- Eelgrass bed
- Maerl Complex species
- Mytilus edulis beds
- Pink seafan
- Peacock worm forests
- Reef building worms
- Stalk Jelly fish
- Seahorse
- Seaweed - Turkey Feather
- Undulate Ray

BAP Habitat Area

- Coastal sand dunes
- Coastal vegetated shingle
- Mudflats
- Reedbeds
- Saline lagoons
- Potential reefs
- Sandy sediments

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DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE
Figure 10: Biodiversity - BAP Habitats

DRAWING NUMBER 2880_10

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Sources: Ordnance Survey, Open Streetmap, Finding Sanctuary & Dorset County Council

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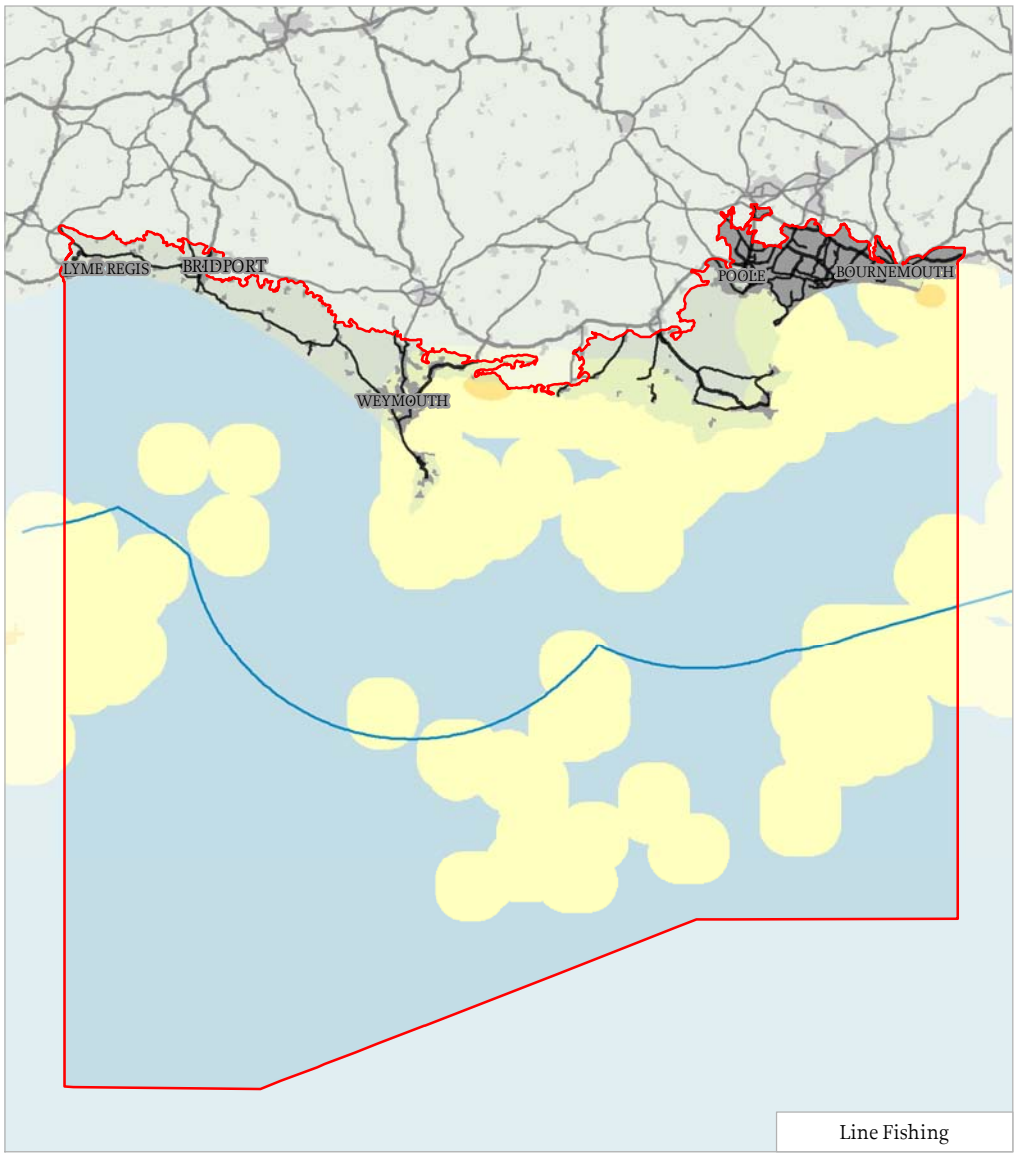
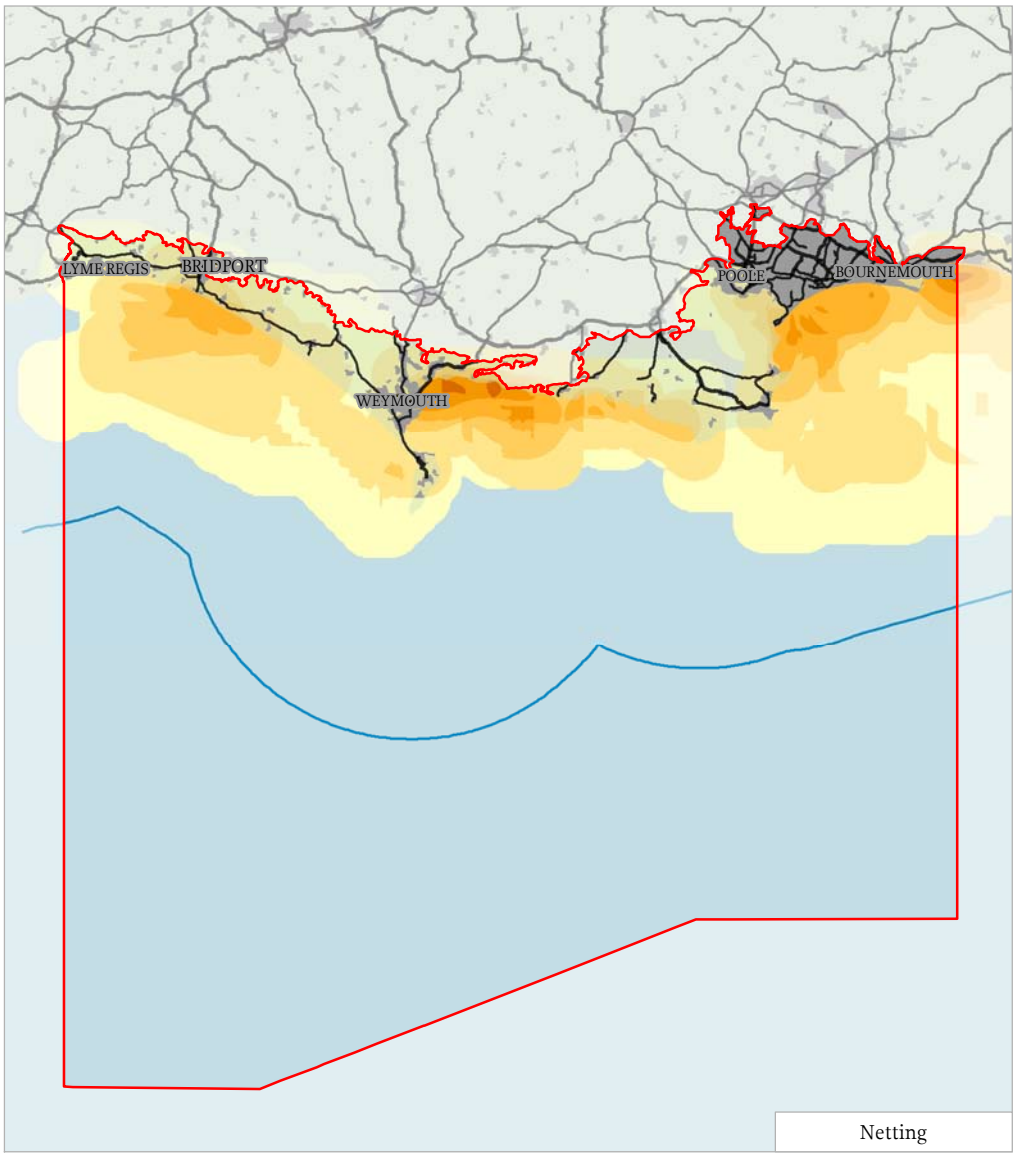
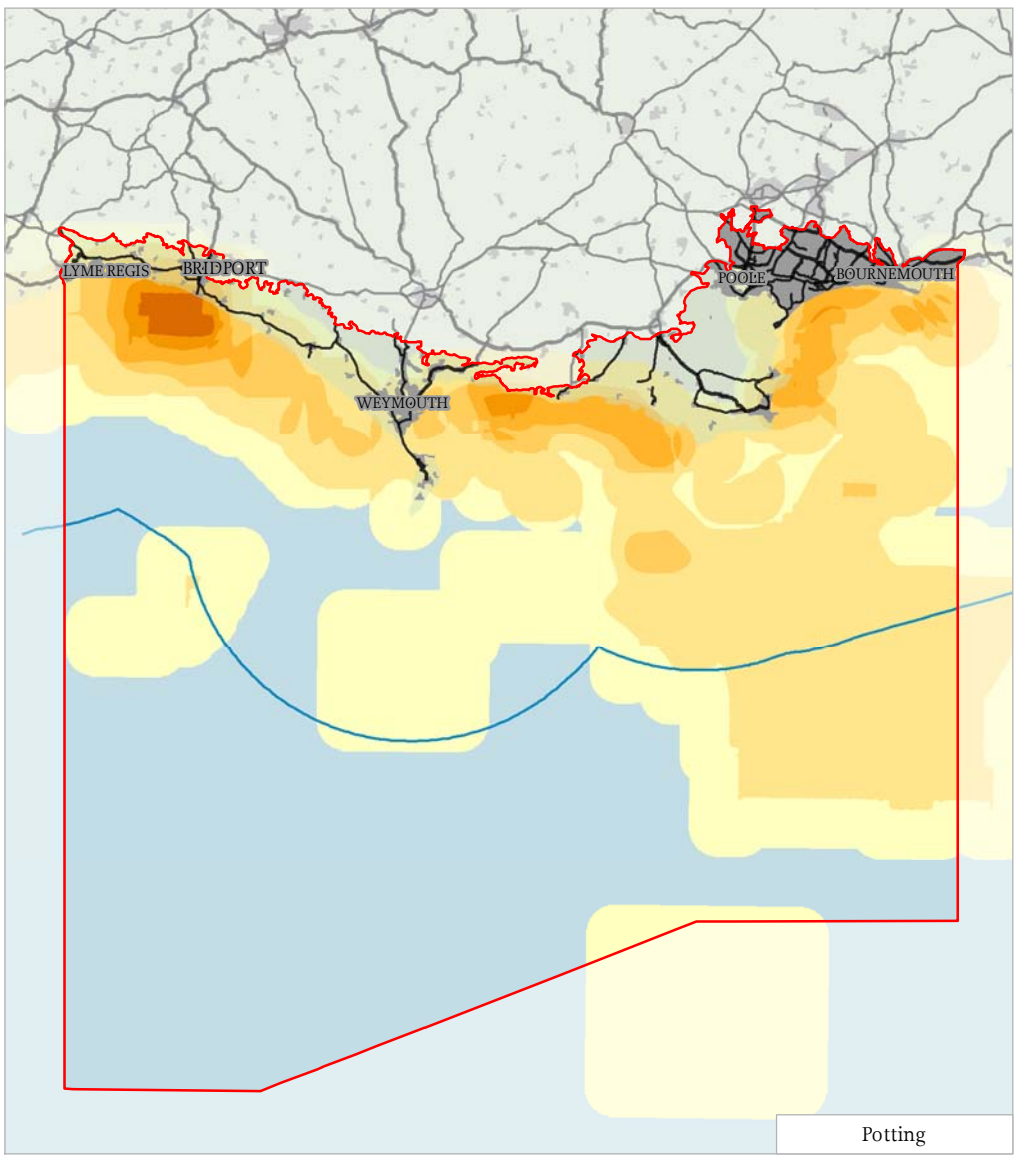


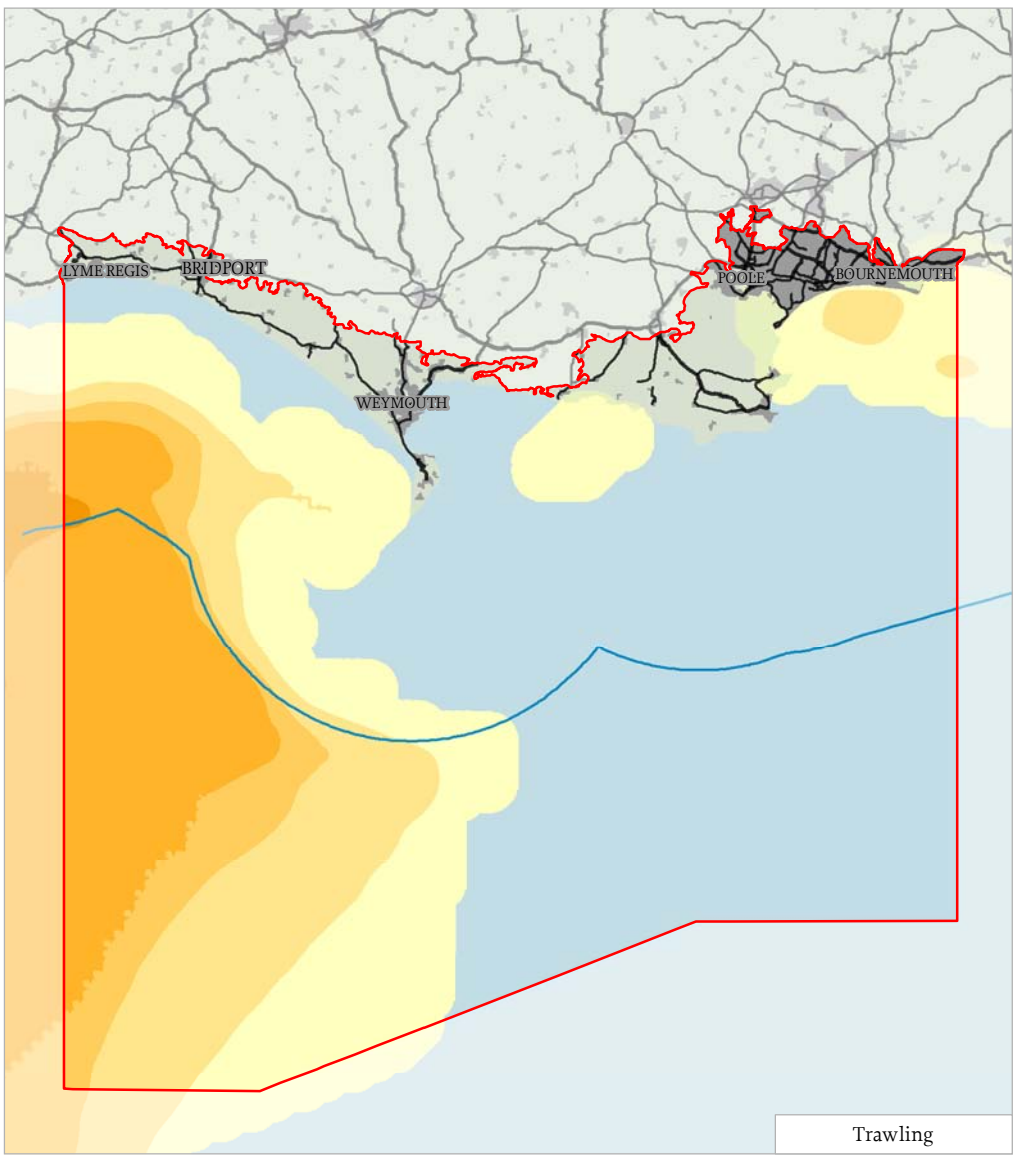
Line Fishing



Netting



Potting



Trawling

X:\JOBS\2880_Dorset Coast\8gis\Projects\2880_11_finding sanctuary_fishing.mxd

Study Area Boundary

12 Nautical Mile Territorial Sea Limit

No activity recorded

Minimal activity

Intensive activity

North

0 50km

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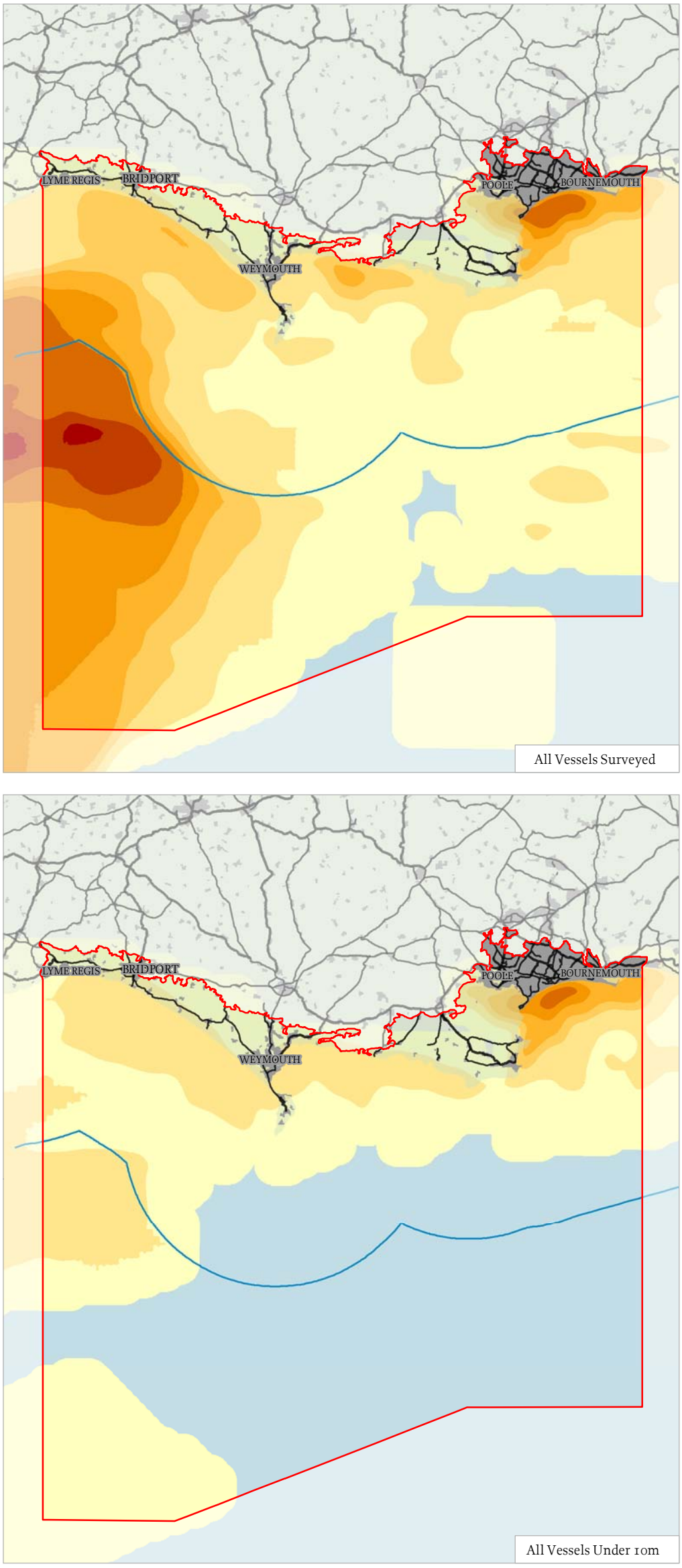
DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE
Figure 11: Activities - Fisheries - Fishing Types

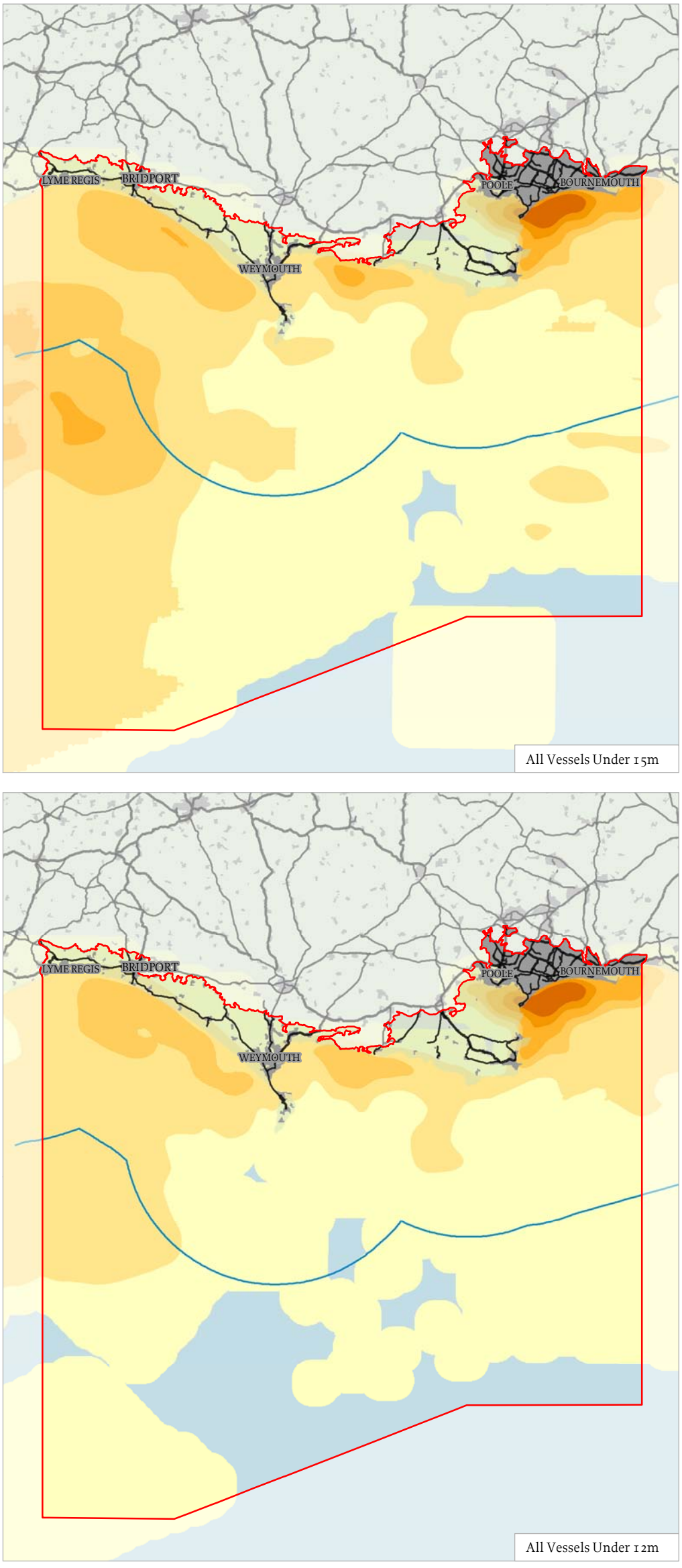
DRAWING NUMBER 2880_11

No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.
Sources: Ordnance Survey, Open Streetmap, Finding Sanctuary & Dorset County Council

DATE	August 2010	DRAWN	DL
SCALE@A3	1:750,000	CHECKED	LJ
STATUS	FINAL	APPROVED	SS



All Vessels Surveyed



All Vessels Under 15m

All Vessels Under 10m

All Vessels Under 12m

Study Area Boundary

12 Nautical Mile Territorial Sea Limit

No activity recorded

Minimal activity

Intensive activity

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DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE
Figure 12: Activities - Fishing Vessels

DRAWING NUMBER 2880_12

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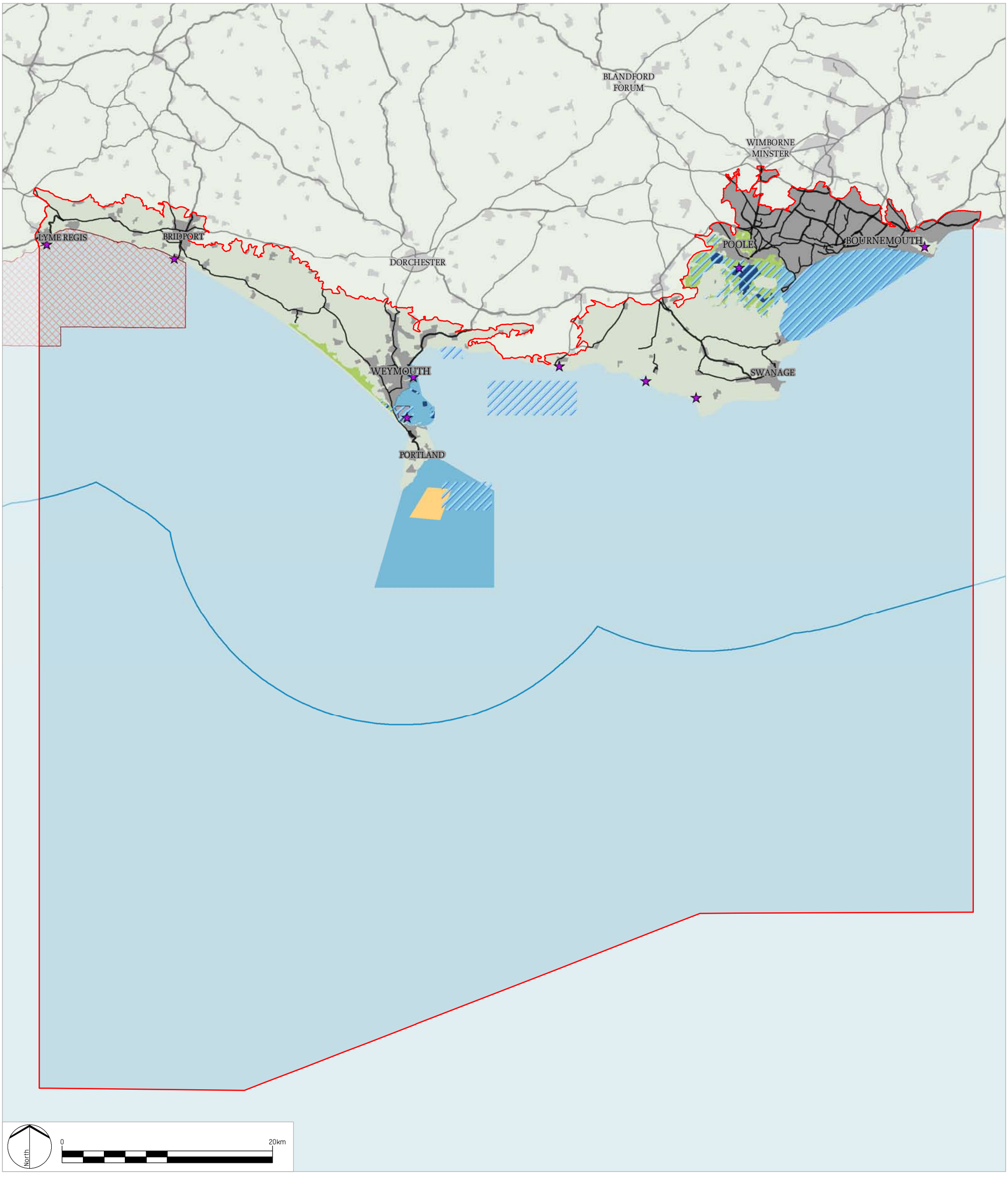
No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.
Sources: Ordnance Survey, Open Streetmap & Dorset County Council

DATE	August 2010	DRAWN	DL
SCALE@A3	1:350,000	CHECKED	LJ
STATUS	FINAL	APPROVED	SS



- Study Area Boundary
- 12 Nautical Mile Territorial Sea Limit
- Fishing Fleet
- Lyme Bay Limited Fishing Area
- Shellfish fisheries
- Designated Shellfish Waters
- Shellfish farms
- Bass Nurseries
- Mussel Reefs

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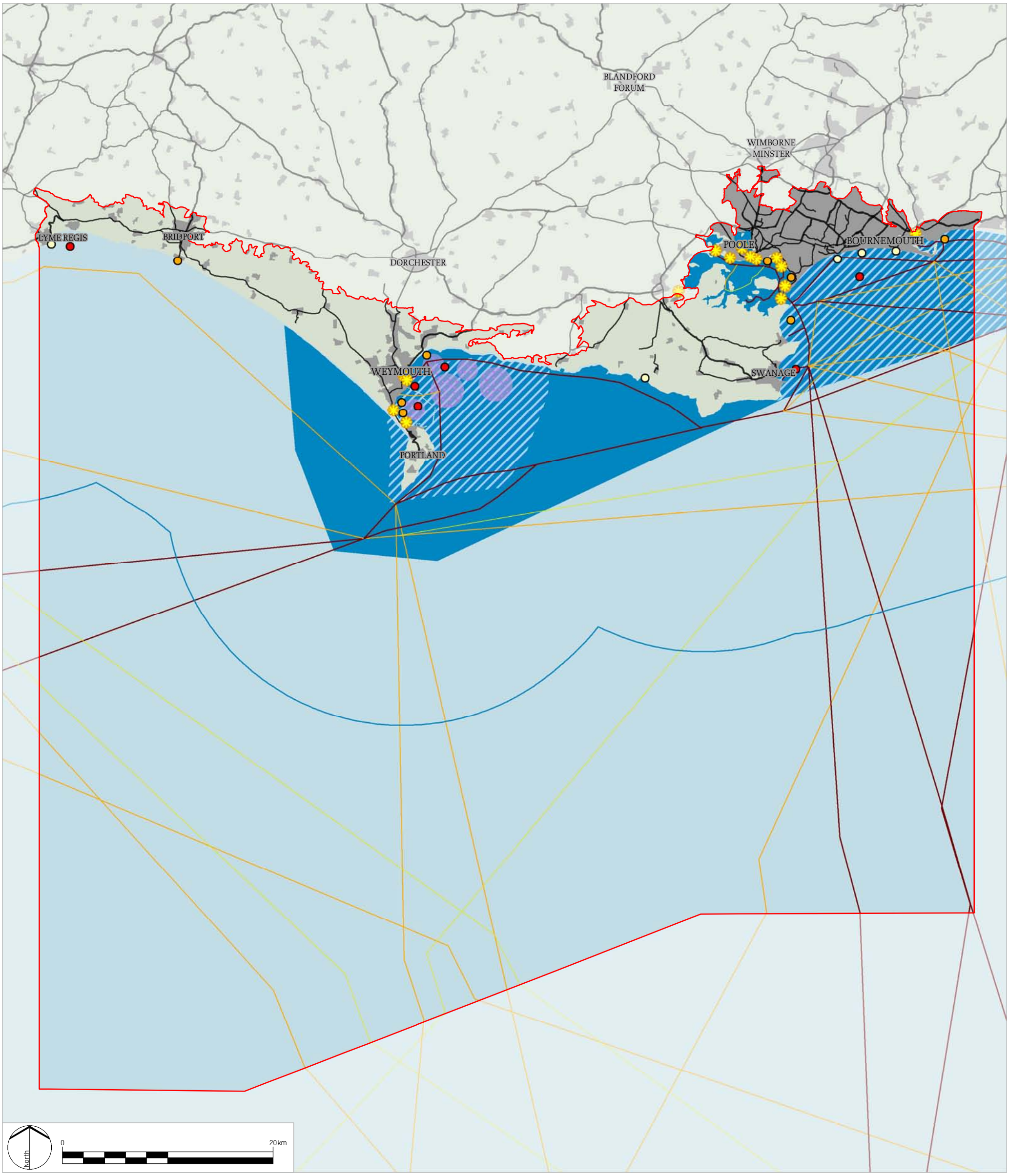
DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE
Figure 13: Activities - Fisheries

DRAWING NUMBER 2880_13

No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.
Sources: Ordnance Survey, Open Streetmap & Dorset County Council

DATE	August 2010	DRAWN	DL
SCALE@A3	1:350,000	CHECKED	LJ
STATUS	FINAL	APPROVED	SS



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- Study Area Boundary
- 12 Nautical Mile Territorial Sea Limit
- Surfing Area
- Windsurfing and Kitesurfing Area
- Waterskiing Area
- Marina
- Yacht Racing Area

Yacht Cruising Routes

- Light Usage
- Medium Usage
- Heavy Usage
- Possible Olympic Sailing Areas
- Sailing Area

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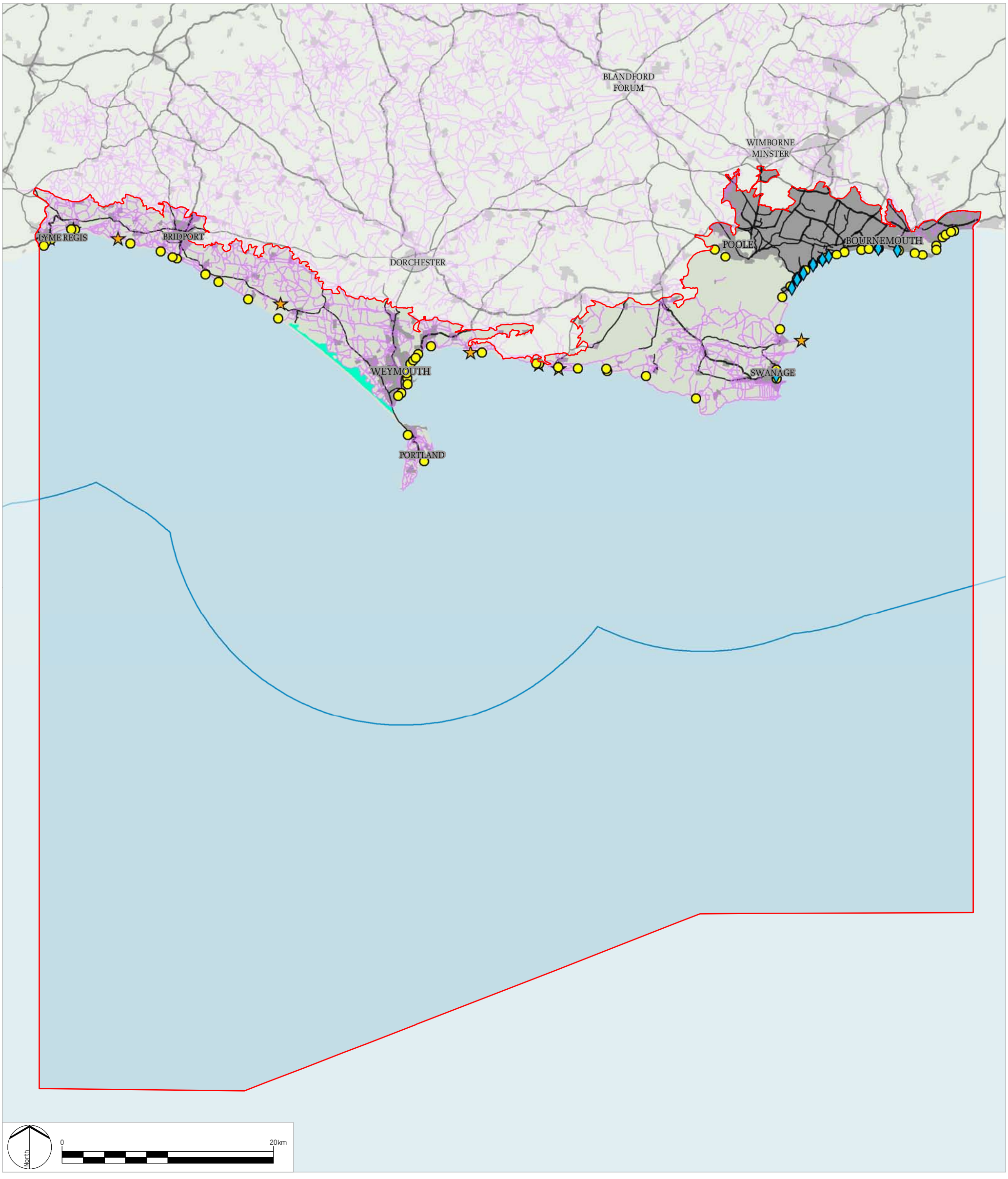
DRAWING TITLE
Figure 14: Activities - Sailing / Offshore Tourism

DRAWING NUMBER 2880_14

No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.

Sources: Ordnance Survey, Open Streetmap & Dorset County Council

DATE	August 2010	DRAWN	DL
SCALE@A3	1:350,000	CHECKED	LJ
STATUS	FINAL	APPROVED	SS



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- Study Area Boundary
- 12 Nautical Mile Territorial Sea Limit
- Blue Flag Beach
- Beach
- Geological Tourism Highlight
- Right Of Way / Permissive Path
- Shoreline Fishing Restricted

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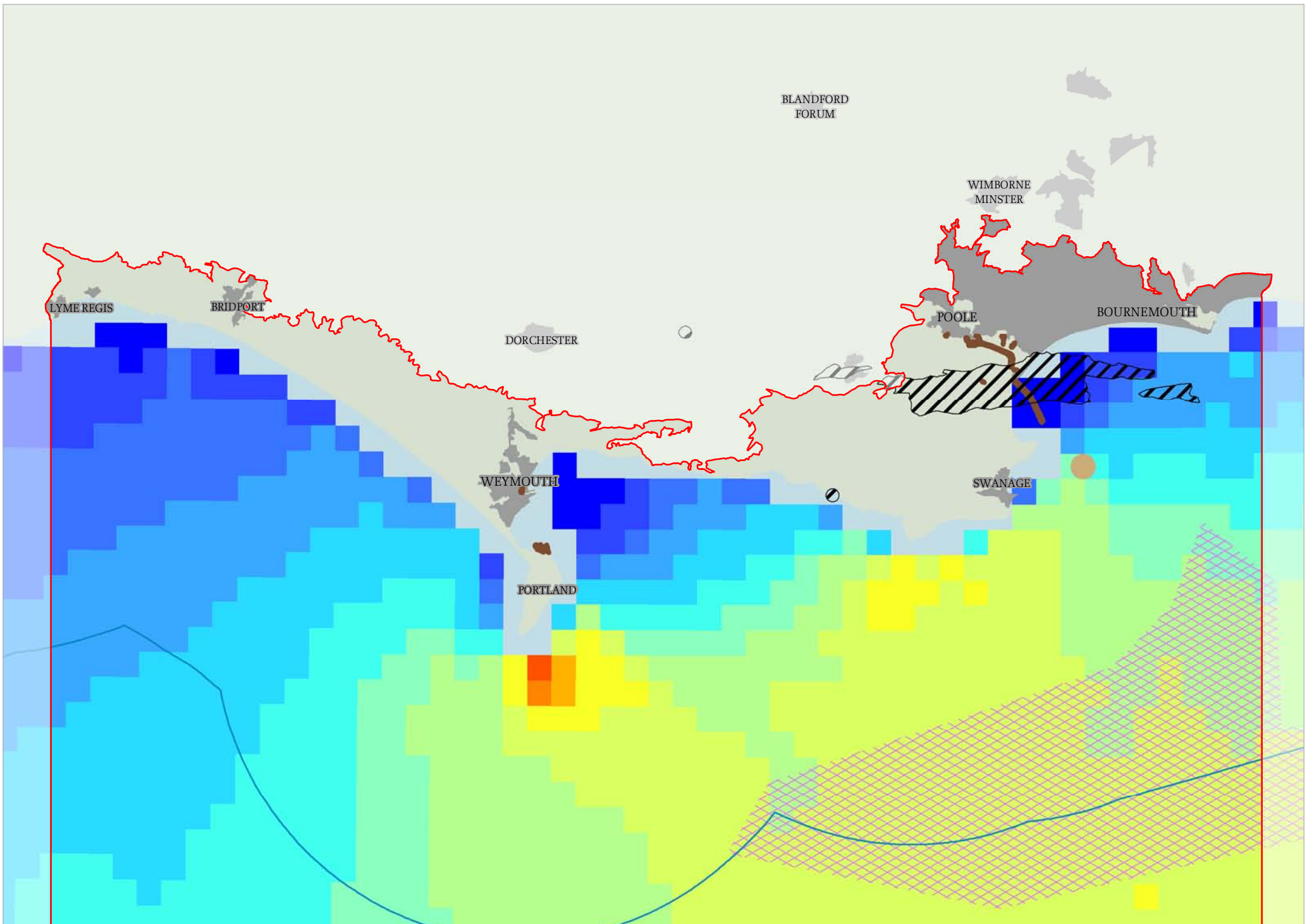
DRAWING TITLE
Figure 15: Activities - Coastal Tourism

DRAWING NUMBER 2880_15

No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.
Sources: Ordnance Survey, Open Streetmap & Dorset County Council

DATE	August 2010	DRAWN	DL
SCALE@A3	1:350,000	CHECKED	LJ
STATUS	FINAL	APPROVED	SS



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- Study Area Boundary
- 12 Nautical Mile Territorial Sea Limit
- Round three wind farm zone
- Oil field
- Dredging Area
- Dredging Disposal Area

Tidal Power (Mean Spring Peak Current m/s)

- 0.00 - 0.28
- 0.29 - 0.43
- 0.44 - 0.57
- 0.58 - 0.72
- 0.73 - 0.91
- 0.92 - 1.10
- 1.11 - 1.29
- 1.30 - 1.50
- 1.51 - 1.75
- 1.76 - 1.99
- 2.00 - 2.15
- 2.16 - 2.36
- 2.37 - 2.59
- 2.60 - 3.27
- 3.28 - 4.49
- Tidal power unclassified

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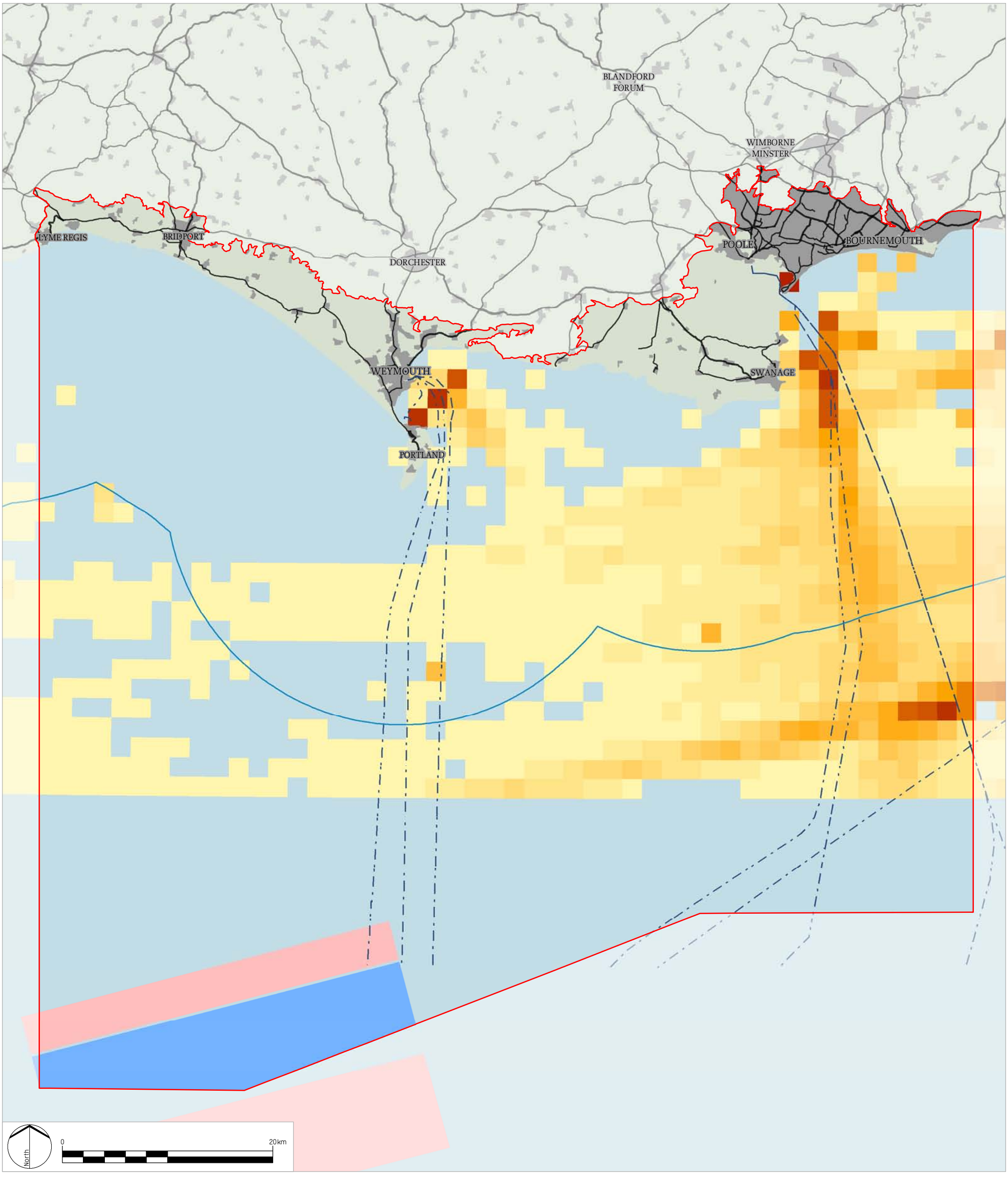
DRAWING TITLE
Figure 16: Activities - Industry & Renewable Energy

DRAWING NUMBER 2880_16

No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.

Sources: Ordnance Survey, Open Streetmap & Dorset County Council

DATE	August 2010	DRAWN	DL
SCALE@A3	1:350,000	CHECKED	LJ
STATUS	FINAL	APPROVED	SS



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- Study Area Boundary
- 12 Nautical Mile Territorial Sea Limit
- Ferry Route
- Traffic Separation Zone
- Traffic Lane
- Shipping minimal or unclassified
- Quiet Zone
- Heavy Zone

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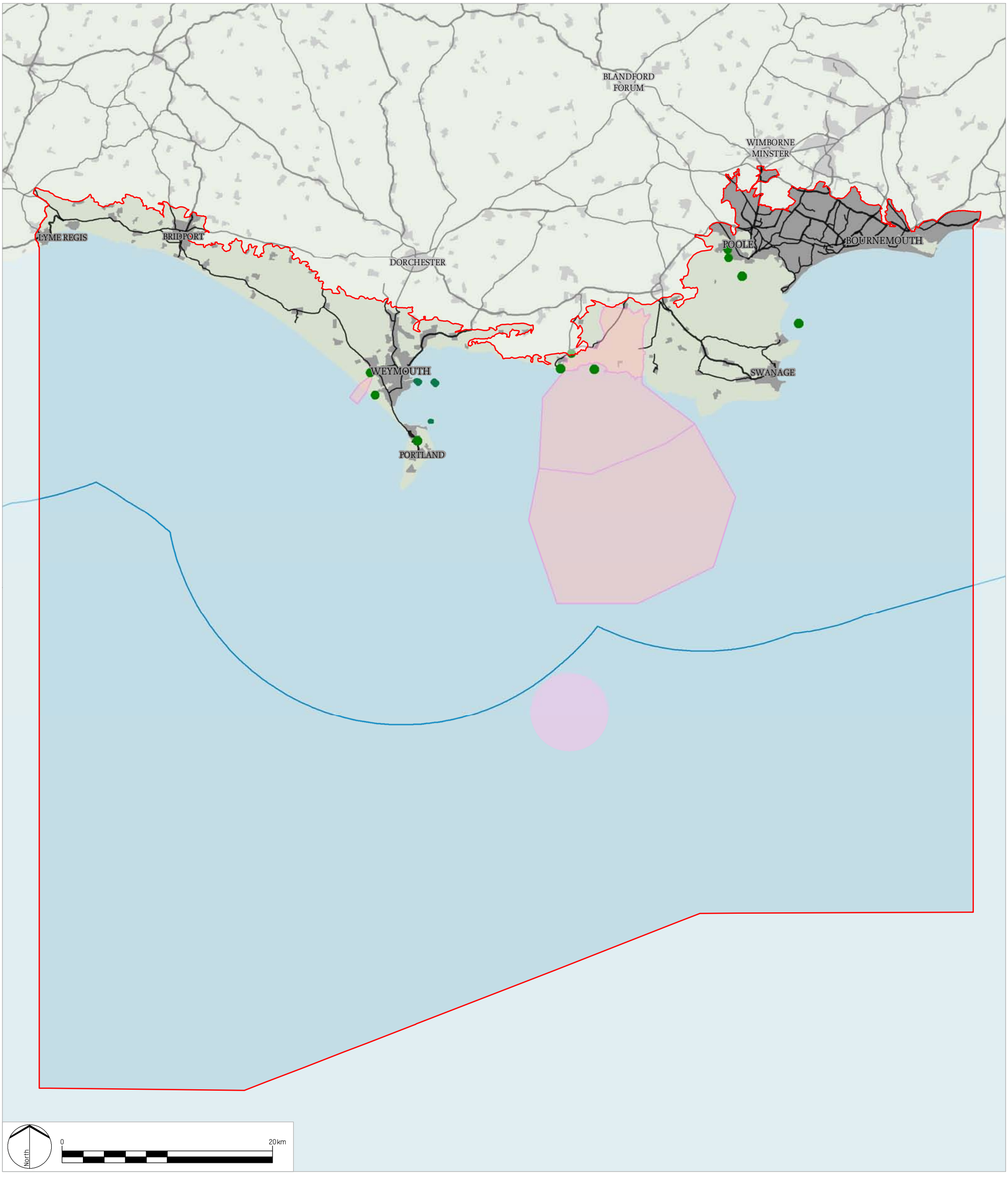
DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE
Figure 17: Activities - Shipping

DRAWING NUMBER 2880_17

No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.
Sources: Ordnance Survey, Open Streetmap & Dorset County Council

DATE	August 2010	DRAWN	DL
SCALE@A3	1:350,000	CHECKED	LJ
STATUS	FINAL	APPROVED	SS



Study Area Boundary

12 Nautical Mile Territorial Sea Limit

Military Training Area

Army Firing Range

Mortar Firing Area

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DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE

Figure 18: Activities - Military

DRAWING NUMBER 2880_18

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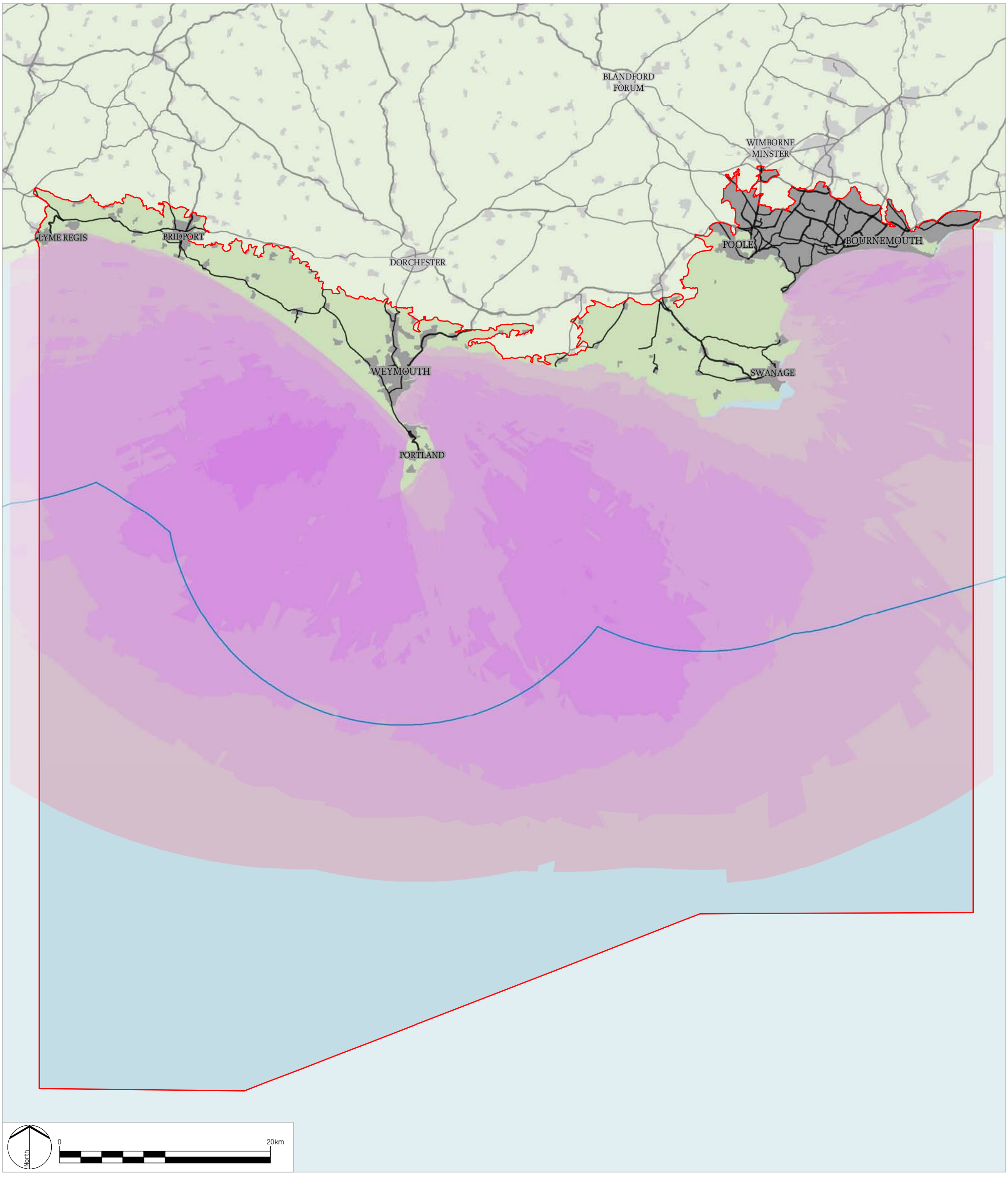
No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.
Sources: Ordnance Survey, Open Streetmap & Dorset County Council

DATE	August 2010	DRAWN	DL
SCALE@A3	1:350,000	CHECKED	LJ
STATUS	FINAL	APPROVED	SS



Study Area Boundary

12 Nautical Mile Territorial Sea Limit

Discrete Areas of Land Visible

Large Areas of Land Visible

Land not visible

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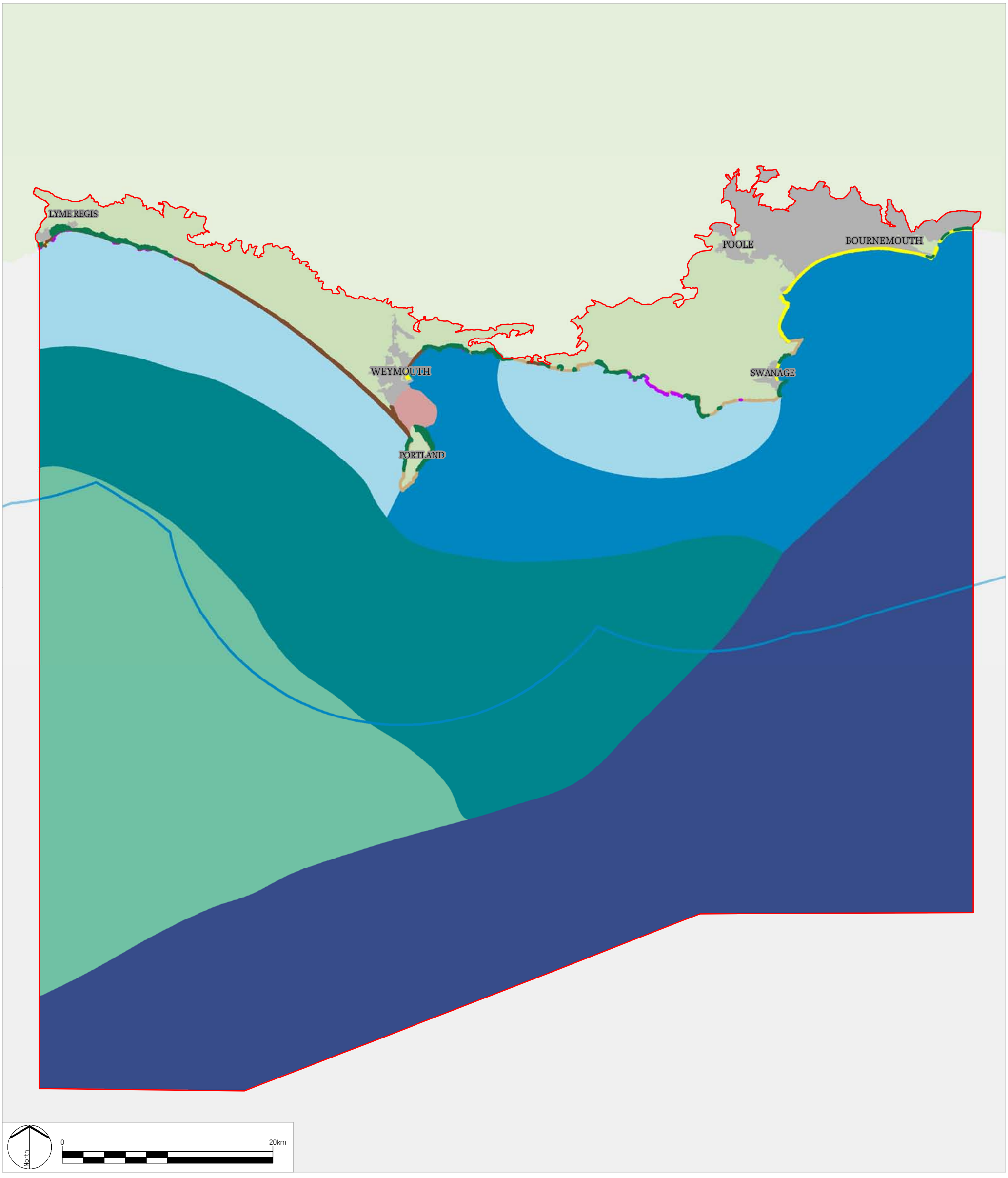
Figure 19: Zone of Theoretical Visibility

DRAWING NUMBER 2880_19

No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.
Sources: Ordnance Survey, Open Streetmap & Dorset County Council

DATE	August 2010	DRAWN	DL
SCALE@A3	1:350,000	CHECKED	LJ
STATUS	FINAL	APPROVED	SS



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- Study Area Boundary
- 12 Nautical Mile Territorial Sea Limit

Character Types

- Sandy Beaches
- Shingle Beaches and Spits
- Slumped Cliffs
- Hardrock Cliffs
- Intertidal Rock Ledges
- Man Made Harbour
- Coastal Waters
- Active Coastal Waters
- Inshore Waters
- Deep Water Offshore Fisheries
- Deep Water Offshore Shipping
- Urban

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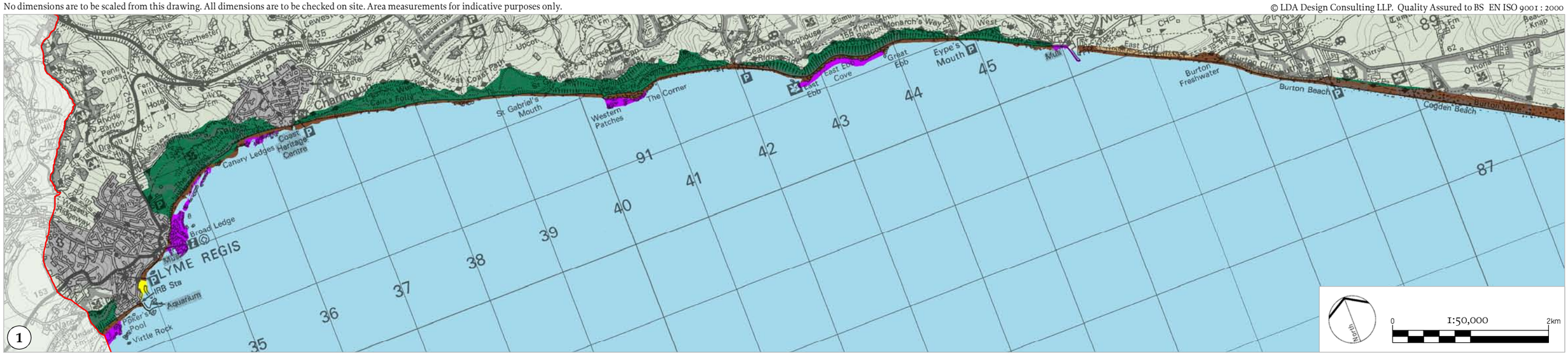
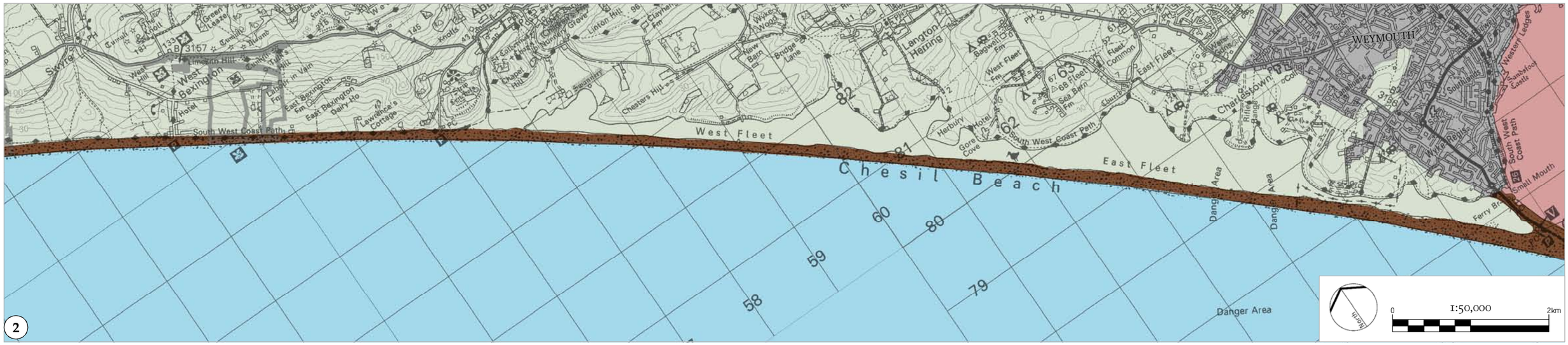
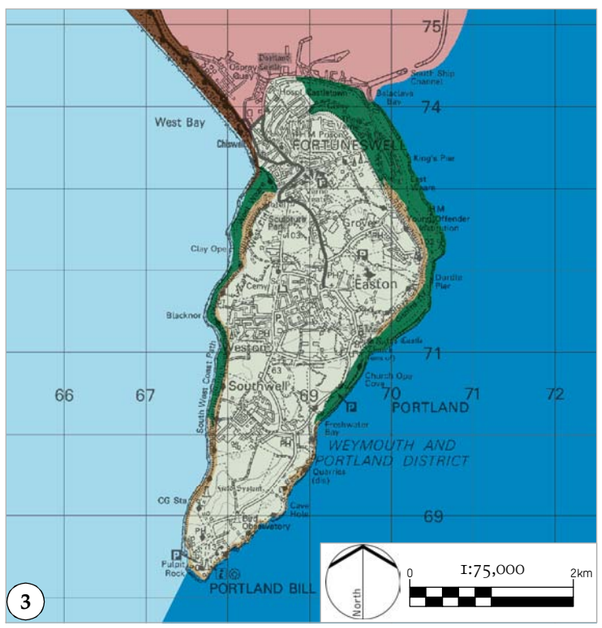
PROJECT TITLE
DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

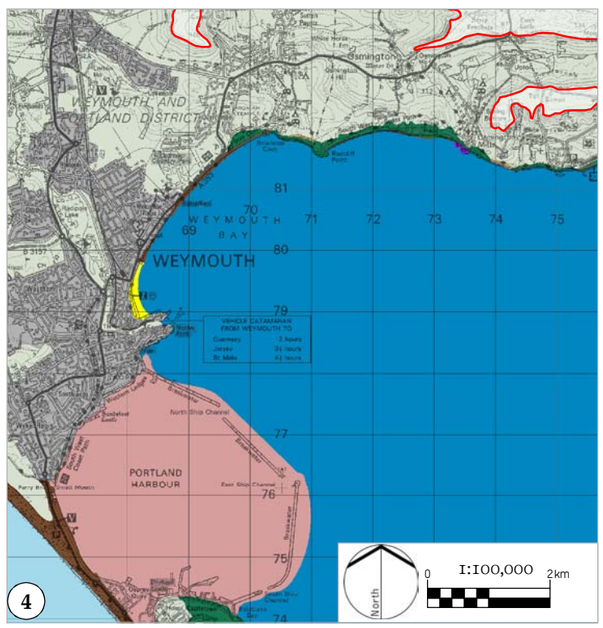
DRAWING TITLE
Figure 20: Coastal & Seascape Character Types

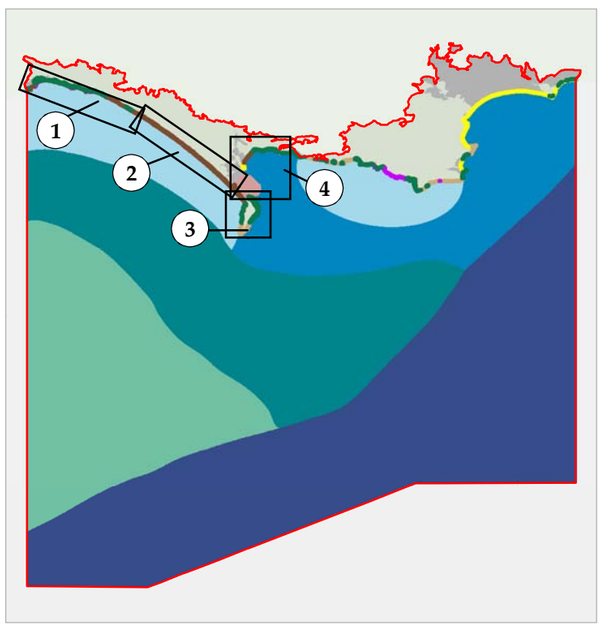
DRAWING NUMBER 2880_20











Study Area Boundary

Character Types

- Sandy Beaches
- Shingle Beaches and Spits
- Slumped Cliffs
- Hardrock Cliffs
- Intertidal Rock Ledges
- Man Made Harbour
- Coastal Waters
- Active Coastal Waters
- Urban

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DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

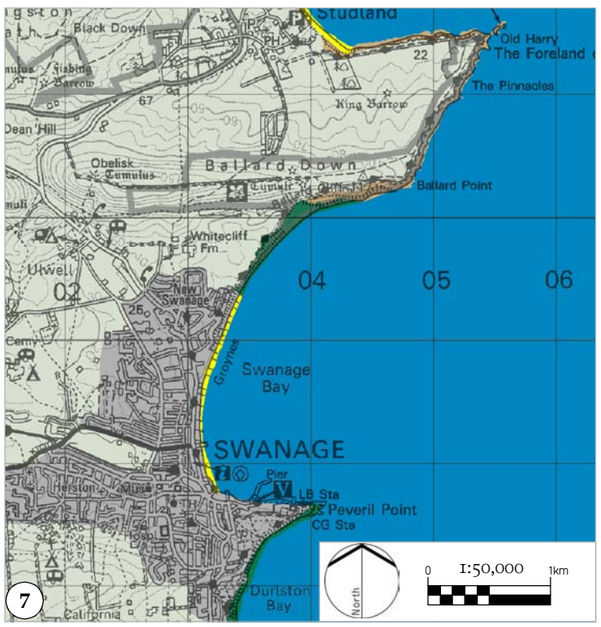
DRAWING TITLE

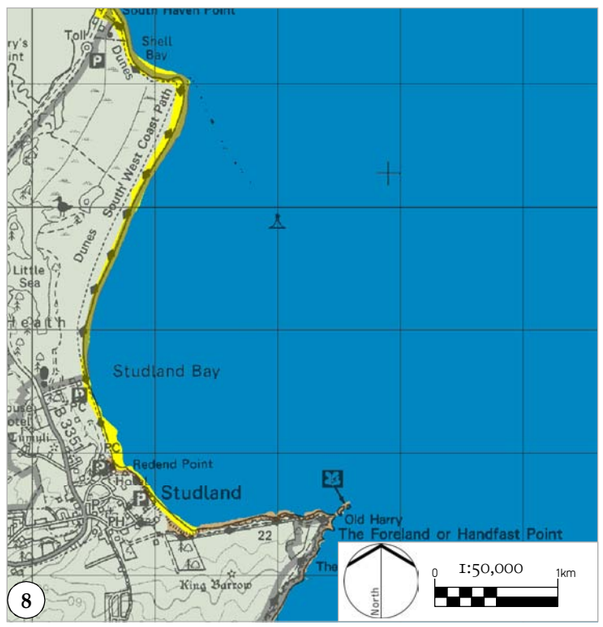
Figure 21: Coastal Character Types (I)

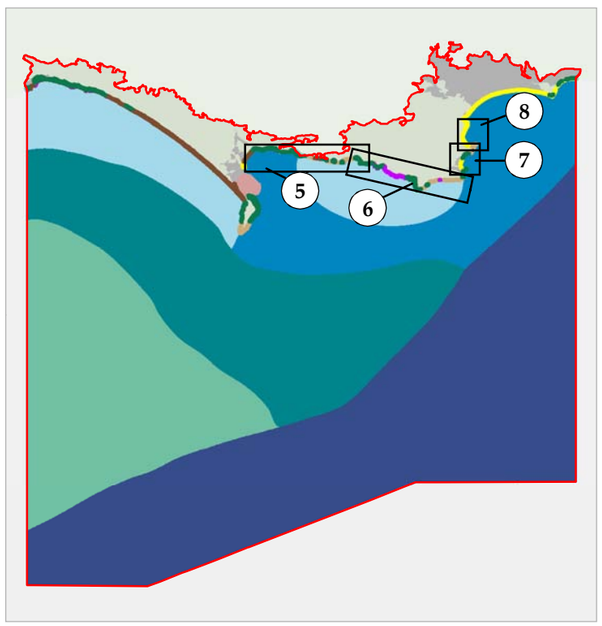
DRAWING NUMBER 2880_21

Sources: Ordnance Survey & Dorset County Council

Drawn: DL, Checked: LJ, Approved: SS, Date: August 2010, Status: Final







Study Area Boundary

Draft Character Types

- Sandy Beaches
- Shingle Beaches and Spits
- Slumped Cliffs
- Hardrock Cliffs
- Intertidal Rock Ledges
- Man Made Harbour
- Coastal Waters
- Active Coastal Waters
- Urban

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DORSET COAST LAND & SEASCAPE CHARACTER ASSESSMENT

DRAWING TITLE

Figure 22: Coastal Character Types (II)

DRAWING NUMBER 2880_22

Sources: Ordnance Survey & Dorset County Council

Drawn: DL, Checked: LJ, Approved: SS, Date: August 2010, Status: Final Draft

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Cross-border Cooperation Programme
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