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SEASCAPE CHARACTER ASSESSMENT IN ENGLAND AND WALES

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1 Introduction and definition

Until recently, the UK’s coasts and seas have been some of the least understood parts of the nation’s environment, with a lack of good information about their character and multiple values. By contrast, tools such as Landscape Character Assessment have been in place since at least the mid-1990s to help a range of audiences, from decision-makers to planning applicants, understand the terrestrial landscape and how to reflect its importance in development proposals and land management decisions (Marshall, 2017).

The passing of marine planning legislation, namely the Marine and Coastal Access Act 2009 for England and Wales and subsequent UK Marine Policy Statement (2011), established the statutory requirement to consider seascape in the UK’s marine planning process. The Marine Policy Statement (MPS) sets the framework for preparing Marine Plans in the UK and for decision-making affecting the marine environment. The MPS notes that the UK has no legal definition for seascape, but paragraph 2.6.5.1 refers to the European Landscape Convention (ELC) definition of ‘landscape’ and goes on to state that, in the context of the MPS:

...references to seascape should be taken as meaning landscapes with views of the coast or seas, and coasts and the adjacent marine environment with cultural, historical and archaeological links with each other.

In the following paragraph 2.6.5.2, the MPS states that “marine plan authorities should consider at a strategic level visual, cultural, historical and archaeological impacts not just for those coastal areas that are particularly important for seascape, but for all coastal areas, liaising with terrestrial planning authorities as necessary”. It specifies that seascape character, quality and value should be considered when assessing the impacts of developments or activities. The MPS then refers to the Landscape Character Assessment (LCA) methodology as an aid to this process (paragraph 2.6.5.3).

It is this legislative framework that provided the catalyst to produce statutory Seascape Character Assessments (SCA) at the national level in England and Wales, building on a handful of pioneering studies that had been exploring the process earlier (e.g. CCW, Brady Shipman Martin & University College Dublin, 2001; White Consultants, 2009). These studies had largely been commissioned in response to development pressures being experienced
along the coast and offshore, which had in turn exposed a lack of policy evidence on ‘seascape’ to inform decision-making. Two decades ago in 2001, CCW et al noted in the Interreg-funded Guide to Best Practice in Seascape Assessment that “…a systematic approach to issues raised is now timely and essential to ensure that the decision making process has the tools to deal with the upcoming changes”.

This chapter presents an overview of the national studies completed for England and Wales following the publication of the MPS in 2011, as well as case study examples of more detailed SCAs designed to inform marine and terrestrial planning at a local scale.

## 2 Strategic-scale seascape character assessment in England

In England, the Marine Management Organisation (MMO) rolled out a region-by-region programme of SCA from 2013, culminating in full inshore and offshore marine plan area coverage by 2016. The final step was to ‘stitch together’ the separate assessments to produce the National Seascape Character Assessment for England, published in 2018.

The first assessment commissioned by the MMO was undertaken for the South inshore and offshore marine plan areas (MMO, 2014). This detailed assessment was the first of its kind to include both a character assessment and visual resource mapping (VRM), designed to respond to the requirements of the MPS. The study drew on lessons learned from an earlier Natural England-led pilot study for the East (URS Scott Wilson, 2012) and a small study in Dorset (LDA Design, 2010). The methodology also built on and further tested the principles set out in An Approach to Seascape Character Assessment (Natural England, 2012). It is important to note that the Natural England methodological document was drafted before the MMO’s seascape assessments in England had been produced. However, the lead officer at Natural England was part of the advisory group for the South study (2014) that helped to steer the further development and application of the approach in practice.

The character assessment element of the South study comprised a comprehensive five-stage process. This same process was followed for all subsequent studies in England, apart from Stage 3 (Field and boat survey verification). This resource-intensive stage was not able to be included in the later studies which took place in a period of funding cuts for government departments such as the MMO. Instead, these later assessments were able to draw on other available (field-verified) landscape and Seascape Character Assessment covering some of the same areas, although these did not provide full coverage. Consultation (Stage 4) with local stakeholders and members of the public also sought to address this potential weakness in the later MMO studies.

Each stage followed for the MMO studies is summarised below.

### 2.1 Stage 1: Gathering and assimilating data and information

This first stage involved gathering and assimilating the range of datasets, literature, plans and strategies available to inform the work. The spatial data was organised in a GIS database structured according to the key themes of the ‘Seascape Wheel’ (Natural England, 2012) – natural, cultural/social and perceptual/aesthetic qualities. Marine raster charts and marine themes vector data provided the backdrop onto which numerous other GIS layers (geology, bathymetry, designated sites, etc.) were overlaid. Particular attention was paid to aligning the coordinate systems of onshore and offshore datasets to ensure a seamless transition between the marine and terrestrial data.
Supplementing GIS data was the full range of available literature relevant to different aspects of seascape character. This included any Landscape Character Assessments covering adjacent coastlines and any local-scale SCAs produced to date. The Coast Pilots published by Imray (e.g. Cuncliffe, 2009) were of particular use in understanding sea conditions (e.g. tides and currents) and interpreting information on marine navigation. These publications also helped gain a further understanding of seascape character from the perspective of the sea and sea users. As with all SCAs, a full list of the data and references used to inform the assessment was included in the report appendices.

### 2.2 Stage 2: Desk-based assessment

The collated data and information relating to the different aspects of the Seascape Wheel were interrogated in order to begin to identify dominant patterns relevant to the character. This process informed the identification of geographically discrete Marine Character Areas (MCAs), as defined in the box below (relevant to all MCAs identified across the marine plan areas of England and Wales).

As noted in all of the SCA reports published by the MMO, the boundaries drawn for the MCAs represent broad transitions, rather than immediate or abrupt changes in character. Professional judgement by landscape and seascape specialists is fundamental in deciding which aspects have greatest influence on the character of each individual MCA. Natural, visual, cultural and socio-economic relationships between adjacent MCAs also play a key role in shaping overall character. The MMO reports therefore also explain that individual MCAs should not be considered in isolation.

### 2.3 Stage 3: Field and boat survey verification

The South study benefited from a detailed field and boat survey exercise, in line with best practice in SCA.

The boat-based surveys focussed on the inshore and coastal waters of the study area, recognising that influences on character tangible from the sea surface are more apparent where land/sea interactions are taking place. The surveys were used to experience being at sea first hand (to understand perceptual qualities), note key views and landmarks, take photographs and make use of the extensive knowledge of skippers who spend much of their lives out at

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**Box 14.1: Definition and application of Marine Character Areas (MMO, 2018, adapted from Natural England, 2012)**

**Definition:** An MCA is an area of marine space that has its own individual character and identity.

**Application:** Although MCAs can share the same generic characteristics as other areas, they provide a good framework within which to draw out patterns of local distinctiveness and those factors influencing the sense of place. They can be used to develop more tailored policies or strategies, reflecting the things that make a particular area different, distinctive or special.
sea. In addition to the boat-based surveys, observations from the coast were made before and after the boat surveys.

2.4 Stage 4: Targeted consultation

Consultation with key stakeholders is an essential step in the process of SCA and was included in all of the MMO studies – both through workshop sessions and online consultation. The consultation process gathered views and information on the MCA names, boundaries and key characteristics. It was used in particular to give people the opportunity to share their knowledge, experiences and what they think is important about the seascapes that they know. As acknowledged by Natural England (2012), “people value the seascape for different reasons, often reflecting the ecosystem services or benefits it provides for them, or the contribution it makes to their personal or community identity”. Involving people in the process also ensured compliance with the principles of the ELC.

A wide range of participants took part in the consultation, from statutory organisations such as Natural England and Historic England, to local authorities, harbour authorities, protected landscapes, conservation organisations/major landowners such as the National Trust and Wildlife Trusts, and bodies representing a range of interests, such as coastal/marine forums. The online consultation process also allowed members of the public to provide their views.

2.5 Stage 5: Final reporting and production of final outputs

The assessments produced for each region comprise the following elements:

- A technical report setting out the context and methodology followed, along with any limitations to be aware of.
- A GIS shapefile for the MCAs.
- Descriptive profiles for each MCA, comprising:
  - A location map of the MCA (forming the front cover of each MCA profile).
  - Overview of the MCA.
  - Location and boundaries.
  - Overall character (summary).
  - Adjacent National Character Areas (for those MCAs abutting the coast – to encourage cross-reference to Natural England’s national landscape character classification).
  - Adjacent nationally designated and defined landscapes (National Parks, Areas of Outstanding Natural Beauty (AONBs), Heritage Coasts and World Heritage Sites).
  - Key characteristics (comprising summary bullet points considering natural, cultural/social and perceptual/aesthetic influences on the MCA’s character).
  - Detailed descriptive information on character under the three headings of ‘Natural influences’, ‘Cultural/social influences’ and ‘Aesthetic and perceptual qualities’ (For the South only).
  - MCA-specific results of the VRM – see further below (For the South only).

2.6 Visual Resource Mapping (VRM)

The South study developed and piloted an approach to mapping land-sea inter-visibility, responding to the MPS requirement to consider visual relationships between coastal and marine areas. GIS modelling resulted in the production of heat maps showing the relative
visibility of the sea surface of each MCA to theoretical ‘viewers’ on land, as well as maps showing which locations on land which have the greatest (relative) views of the sea.

The methodology followed is detailed in the study’s technical report, and has since been rolled out across England and Wales as a further tool to inform strategic-scale marine planning. The approach has also been adapted at a more detailed scale for some of the local-scale SCAs that have been produced in England and Wales.

The development of the approach drew on examples of visibility mapping undertaken elsewhere in the UK, considering in its development factors such as the position and elevation of the ‘viewer’, the curvature of the earth and climatic conditions.

3 Completion of the National Seascape Character Assessment for England

In 2018, the MMO commissioned Land Use Consultants (LUC) to create a single combined GIS layer and map of MCAs covering all of England’s inshore and offshore waters, replacing the separate datasets produced for the individual marine plan areas. This required an understanding of how the character ‘flows’ between marine plan areas and across the border to and from Wales. For the links with Wales, this was already considered in the work undertaken to produce the National Seascape Character Assessment for Wales (see further below), as well as the regional studies for the South West and North West which contain cross-boundary MCAs.

Using GIS, the National Marine Character Area layer for England was created by merging the individual datasets produced for the southwest, northwest, north east, east, southeast, and south marine plan areas. Areas which overlap at either end of these individual datasets were merged or amended to reflect stakeholder comments on names and boundaries, and desk-based interpretation of characteristics and features from available data and information. The resultant national seascape character map for England is presented in Figure 14.1.

The Marine Management Organisation has recently published a step-by-step approach document to help stakeholders assess the sensitivity of Marine (or Seascape) Character Areas to defined development types and scales of change, incorporating a consideration of seascape quality and value (MMO, 2019). This aims to fulfil the MPS requirement for marine plan authorities such as the MMO to assess seascape quality, value and capacity to accommodate change (paragraph 2.6.5.2). This publication is intended to complement the equivalent approach document published by Natural England on landscape sensitivity assessment (Natural England, 2019).

4 Strategic-scale seascape character assessment in Wales

Wales, led by the then Countryside Council for Wales (CCW, now Natural Resources Wales, NRW), has been pioneering and testing approaches to SCA since the early 2000s. Probably the first good practice guide in the world on the process was produced as part of a Maritime Ireland/Wales INTERREG project (CCW et al., 2001). In part as a result of pressure for offshore renewable energy developments in Welsh waters, this was followed by a project to describe 50 visually-defined regional-scale seascape units along the full length of the Welsh coast and assess their sensitivity to change (White Consultants, 2009). Further innovative projects followed to develop thinking further, including a study to assess seascape sensitivity to tidal stream developments (LUC, 2011) and a pilot local-scale SCA focusing on a study area in northwest Anglesey (LUC, 2012). This latter study included a recommended methodology for undertaking further local-scale SCA work in Wales.
Figure 14.1  National map of Marine Character Areas in England and Wales
By this time concern was escalating about the pressures impacting on Welsh seascapes, not least from offshore renewable energy developments. This led to the commissioning of the first local-scale SCAs in the country covering the nationally designated coastlines of Anglesey, Snowdonia and parts of Gwynedd (Fyfe et al., 2013) and Pembrokeshire (White Consultants, 2013). Further local coverage has been achieved following the recent completion of the Carmarthen Bay, Gower and Swansea Bay Seascape Character Assessment (White Consultants and Cardiff University, 2017).

The marine planning process in Wales began in earnest in 2014, with the same legislative requirement as England to consider ‘seascape’ in the Welsh National Marine Plan. LUC was contracted by Welsh Government and NRW to produce the National Seascapes Character Assessment for Wales (LUC, 2015b), drawing on the work undertaken in Wales to date, whilst ensuring compatibility with the strategic-scale work that was being rolled out in England at the same time. The national assessment resulted in the classification and description of 29 national Marine Character Areas as well as VRM at the national and individual MCA scale. As well as forming evidence for the Welsh National Marine Plan, “the spatial framework and information provided by this work will be used to understand local opportunities to support blue growth and the transition to a low carbon economy” (NRW, 2015).

The study covers all parts of Welsh inshore waters between the high-water mark and 12 nautical miles out to sea, concentrating on the area where land-sea interactions are focussed. The national Marine Character Areas are complemented by NRW’s existing framework of national Landscape Character Areas (48 in total), which extend to the low water mark to provide seamless character assessment coverage between land and sea (see Figure 14.2). In so doing, the combined character assessment information helps to integrate the new marine planning process with the longer established land use planning system.

In order to provide consistency and promote cross-border planning, the same approach was taken to the Wales National SCA as for the strategic-scale assessments in England (described in the previous section). For both countries, it was important to recognise that seascape character ‘flows’ across administrative boundaries and therefore the definition of MCAs was not constrained by the national border. As a result, a number of MCAs include areas of sea in both Wales and England, including the Dee Estuary straddling North Wales and north-west England, and the Bristol Channel and Severn Estuary which – in combination – form the natural frontier between South Wales and south-west England.

Another key consideration for the Wales National SCA was the links with the emerging framework of local-scale Seascapes Character Assessments. At the time of producing the National SCA, two local studies had been published for Snowdonia and Anglesey and Pembrokeshire Coast National Park (Fyfe et al., 2013; White Consultants, 2013). Where appropriate and consistent with the national approach, the objective was to achieve a ‘nesting’ of MCAs as a tier above the local-scale units. The National Seascapes Character Assessment report notes, however, that some of the boundaries identified by the local studies are more intricate than the smoother MCA lines. This reflects the decision made for all of the strategic-scale studies to create smooth boundary lines that represent broad character transitions between individual MCAs, rather than more detailed changes identified at the local scale (LUC, 2015). The report includes maps illustrating the relationships between the Wales MCAs and the local Seascapes Character Areas, which also incorporate areas of coastline within the units.

The outputs of the National Seascapes Character Assessment for Wales are hosted on NRW’s website to reach as wide an audience as possible, with NRW noting that “seascapes, like landscapes, reflect the relationship between people and place and the part it plays in forming the
Figure 14.2 The national landscape and seascape assessment framework for Wales
setting to our everyday lives”. The webpage goes on to explain that the MCAs “…highlight the key natural, cultural and perceptual influences that make the character of each seascape distinct and unique”.

NRW now plans to integrate the seascape information provided by the local studies into LANDMAP – the all-Wales landscape resource where characteristics, qualities and influences on the landscape are recorded and evaluated under five themed datasets (currently Geological Landscape, Landscape Habitats, Visual and Sensory, Historic Landscape and Cultural Landscape). ‘Seascape’ will be a new dataset theme to complete LANDMAP’s coverage across land and sea.

5 Examples of local-scale seascape character assessments

5.1 Seascape character assessment for the Dover Strait (LUC, 2015)

In 2015, LUC completed a full assessment of the Dover Strait covering both English and French territorial waters and coastlines – large sections of which are nationally designated for their special landscape qualities. This study was part of the wider Interreg IV C-funded NOSTRA (Network of STRAits) programme; seeking to share ideas and best practices in marine spatial planning in strait seascapes across Europe.

LUC’s seascape surveyors undertook both land- and sea-based surveys as part of this assessment, the latter by chartered boat (surveys undertaken in both English and French coastal waters) and the Dover–Calais ferry. The study reveals the remarkable unified natural and cultural heritage of the Dover Strait. This includes evidence on the sea bed of the Strait’s creation, following the dramatic inter-glacial collapse of the land bridge which once connected Britain with mainland Europe. The unifying chalk geology which crosses the sea bed outcrops in famous, world-renowned cliffs which are part of both countries’ national identities – the White Cliffs of Dover and the Grand Site des Deux Caps. It is also the busiest shipping lane in the world, creating inherent conflicts between its economic and environmental values.

The detailed assessment divides the Strait into nine coastal Seascape Character Types (with 27 component Seascape Character Areas), three Inshore Seascape Character Types (with 11 component Seascape Character Areas) and two Offshore Seascape Character Types (with four Seascape Character Areas). The Seascape Character Types are used as a framework to understand key issues impacting on their valued attributes; trends impacting on all Seascape Character Areas falling within the Type. This considers issues such as development and transport, tourism and recreation, land and marine resource management, aquaculture/fishing and climate change. Tailored guidelines in response to the key issues are also outlined, to guide the sustainable future management of the Strait’s distinctive seascapes.

The framework of unique Seascape Character Types, covering the coastal, inshore and offshore parts of the Strait, is used to present detailed information on baseline character in the form of key characteristics. These are arranged under the sub-headings of ‘Natural’, ‘Cultural/historic’ and ‘Aesthetic/Perceptual influences’ – aligned with the Seascape Wheel (Natural England, 2012).

The study provides evidence for the Dover Strait Implementation Plan (2014) and for exploring the designation potential of the whole Strait to recognise its international importance. The classification (see Figure 14.3) nests spatially as a tier below the national Marine Character Areas to provide seamless national to local classification.
Figure 14.3 The seascape classification of the Dover Strait
5.2 North Devon and Exmoor seascape character assessment (LUC, 2015)

The coast of North Devon and Exmoor comprises some 90 contiguous miles designated as National Park or AONB, as well as four Heritage Coasts including the unique stand-alone Heritage Coast at Lundy. Of this coastline more than two-thirds is in National Trust ownership, managed for its conservation importance as well as the opportunities it provides for public access and enjoyment.

The marine area is equally recognised at a national and international level for its rich and varied biodiversity. It supports commercially and recreationally important fishing and potting grounds; a strong fishing heritage closely associated with the character of the area. Abundant nautical landmarks including lighthouses, seamarks, lifeboat stations, piers, limekilns and small historic harbours also reveal much about past maritime activity.

With the second largest tidal range in the world in the Bristol Channel, and large parts open to the offshore winds, Atlantic swell and strong tidal streams, the marine environment has a unique character of its own, created by the interaction of both natural and cultural influences. New technologies are exploring the area’s natural resources, with pioneering research into new renewable energy technologies. One of the drivers behind the commission of this Seascape Character Assessment was to help future developments of this kind consider the special qualities of the seascape in their design and planning stages.

LUC was commissioned by the National Trust, North Devon AONB and Exmoor National Park Authority in 2015 to undertake a seascape character assessment to provide baseline evidence to support a number of important planning, management and policy activities by project partners and others. Like the Dover Strait assessment summarised above, the North Devon and Exmoor SCA considers both the coastline and seas of the study area. The classification of Seascape Character Types and Areas aligns with the adjoining Landscape Character Types and Areas defined by the published Landscape Character Assessments for North Devon & Torridge (LUC, 2011) and Exmoor National Park (2007). It is believed that this project was the first to achieve full integration of the mapped landscape and seascape classifications to strengthen planning and decision-making across land and sea. Figure 14.4 illustrates how the assessment presents mapped and descriptive information on the first page of each Seascape Character Area profile.

5.3 Carmarthen Bay, Gower and Swansea Bay seascape character assessment (White Consultants and Cardiff University, 2017)

This local Seascape Character Assessment was commissioned by The City and County of Swansea, in partnership with Carmarthenshire County Council, Neath Port Talbot and Bridgend County Borough Councils and Natural Resources Wales. The study area in South Wales covers east Carmarthen Bay, the Burry Inlet/ Loughor Estuary, Gower, and Swansea Bay including territorial waters up to 12 nautical miles offshore.

The building blocks for the seascape classification are a typology of marine, intertidal and terrestrial Seascape Character Types (SCTs) that are largely based on natural and physical influences. For example, the marine SCTs are defined using data on the following attributes:

- Bathymetry
- Seafloor topography
- Seabed sediments and bedrock
- Wave climate/stress
The coastal typology draws on LCA information, including the LANDMAP Landscape Habitats and Visual and Sensory aspects, to facilitate alignment between the terrestrial and marine assessments.

The report explains that the SCA boundaries are primarily driven by the marine SCTs, as these define the character of both the marine areas and the coast with different geological formations. The coastal SCAs are a combination of marine, intertidal and coastal landscape types, whilst SCAs covering the estuaries are primarily defined by the intertidal and terrestrial types. This fine-grained assessment of 20 SCAs provides reference to the national Marine Character Areas – four of which are wholly or partially within the study area. However, a direct nesting of boundaries was not possible due to the broad brush versus detailed nature of the respective studies.

A descriptive profile is included for each SCA, structured as follows:

- A summary description and key characteristics.
- Detailed descriptions under the headings of ‘natural influences’, ‘cultural influences’, and ‘aesthetic, perceptual and experiential influences’ – consistent with the national assessment.
- A summary of the seascape’s contribution to cultural benefits and services.
- A matrix setting out the key forces for change impacting on special qualities, with further information supporting the matrix.
- A summary of key sensitivities, and the factors impacting on sensitivity.

The Seascape Character Assessment report includes a helpful guide to the uses of the information – informing policy development, for development management as well as raising awareness and understanding of coastal and marine environments by the general public.
6 Conclusions

This chapter demonstrates, using case study examples, how the SCA methodology has evolved through its practical application at different scales, in different geographical areas (e.g. national studies focusing on marine areas; local studies spanning both marine and land areas), and to fulfil different policy objectives and intended end-uses. All of the cited studies sought to take an integrated approach to assessing and describing seascape character, considering each section of the ‘Seascape Wheel’ (Natural England, 2012), but they recognised that these influences vary across different seascapes. The studies demonstrate how different sources of information need to be considered in a holistic way to produce robust assessments. They particularly emphasise the importance of field observations (a noted weakness in some of the more recent MMO assessments) and the involvement of seascape ‘users’ and the wider public in ensuring findings stand up to scrutiny and are reflective of local opinion.

Although the national assessments followed a consistent methodology with a focus on assessing the current character and visual resource of the Marina Character Areas, the chapter illustrates how differently the process can be applied and information presented at the local scale. This includes the extent to which SCAs align with available LCAs (e.g. in the creation of shared spatial units); whether local SCAs are able to ‘nest’ below the national framework of MCAs as a more detailed spatial layer; the content/structure of the written information; and the inclusion of sensitivity analysis. These variations inevitably reflect the different needs and aspirations of the commissioning authorities, which in turn shape the specific content and outputs produced by SCA authors.

The published national assessments for both England and Wales are limited to information on baseline (current) seascape and visual character, meaning further work is needed to respond to MPS paragraph 2.6.5.2. to fully understand the impacts of activities and development. It is unclear at the present time when and if this further work is planned in England or Wales, although both countries have already explored and trialled seascape sensitivity assessment methodologies (e.g. LUC, 2011; MMO, 2019; White Consultants, 2009).

References


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