



# Seascape Assessment for the South Marine Plan Areas

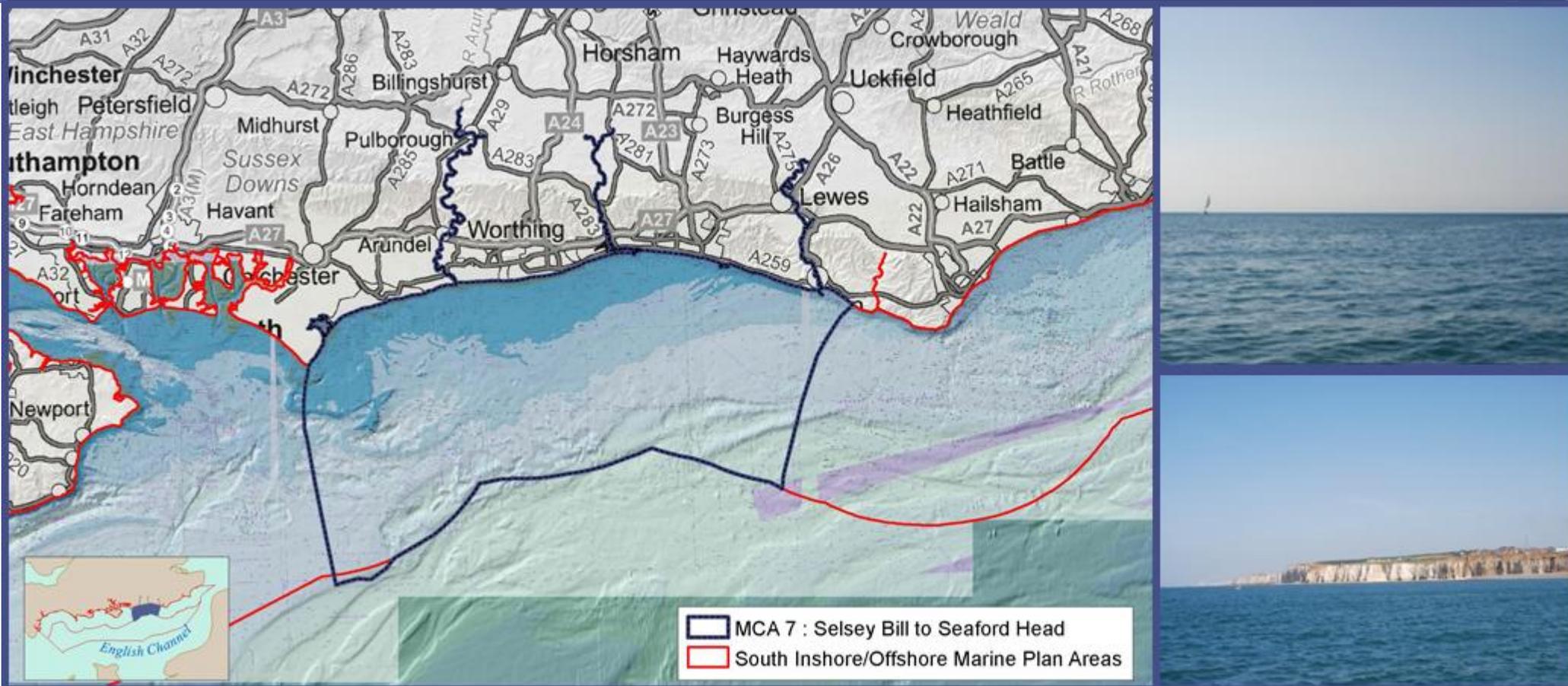
## MCA 7: Selsey Bill to Seaford Head

Snapshot

Key Characteristics

Description

Visual Resource Mapping



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## Location and boundaries

The Marine Character Area (MCA) is an extensive bay with boundaries formed in the west by the low lying headland of Selsey Bill and to the east by the distinctive chalk cliffs of Seaford Head, where the South Downs National Park boundary meets the coast. It includes the expansive urban development along the coastline, extending to a maximum of approximately 28 kilometres (15 nautical miles) offshore. The seaward boundary of the MCA is broadly consistent with the boundary of the South Inshore Marine Plan Area, representing the 12 nautical mile territorial limit and bathymetry of approximately 50m, and the transition to the main channel shipping lanes which begin at the south-eastern extent of the MCA. The MCA covers the majority of the Shoreline Management Plan Area 7: Beachy Head to Selsey Bill.

Please note that the MCA boundaries represent broad zones of transition (not immediate breaks in character). Natural, visual, cultural and socio-economic relationships between adjacent MCAs play a key role in shaping overall character. Therefore individual MCAs should not be considered in isolation.

## Overall character

This expansive bay framed by the headlands is locally known as the Bay of Sussex. The coastline contains a number of towns including Selsey, Bognor Regis and Littlehampton to the west, Worthing and Brighton in the centre and Newhaven and Seaford to the east. The South Downs National Park is located inland to the north of the major settlements forming a prominent ridge and extends to the coastline at places in the east of the MCA, between Brighton and Rottingdean, Saltdean and Peacehaven and Newhaven and Seaford providing important visual connections to and from the sea. Shingle beaches offset the major coastal resorts in the west of the MCA and vertical chalk cliffs characterise the east, where there are views to the prominent white cliffs of Beachy Head (South Downs National Park) in MCA 8. Tidal currents are fast in the waters around the points of Selsey and Beachy Head, whilst the bay is more sheltered. Views seaward are frequently to an unbroken horizon with the main shipping traffic being located at a greater distance into the channel. Small recreational craft and fishing boats are the main sea users with cross channel ferries between Newhaven – Dieppe and freight from small ports at Shoreham, Newhaven and Littlehampton.

## Adjacent National Character Areas (NCAs)

The adjacent coastline includes the following NCAs as defined by Natural England<sup>1</sup>:

- 126: South Coast Plain and 125: South Downs

## Adjacent nationally protected landscapes

Parts of undeveloped coastline in the east of the MCA lie within the South Downs National Park. The National Park continues as a prominent ridge behind the developed coastal plain forming a backdrop to the Character Area.

<sup>1</sup> <http://www.naturalengland.org.uk/publications/nca/default.aspx>

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- Coastal geology dominated by chalk, also forming the prominent ridgeline of the South Downs visible in views from the sea. High, vertical chalk cliffs are exposed from Brighton to Seaford Head.
- Unique underwater chalk cliffs stretching from Brighton to Worthing; the Sussex coast is the only location where chalk strata exist as both reefs and cliffs.
- Long shingle beaches characterising the western section of the MCA, serving as the focal point for a number of popular seaside resorts including Bognor Regis, Worthing and Brighton.
- Eastward transportation of sediment restricted by groynes, affecting the natural coastal processes of erosion and accretion that greatly influence the character and shape of this dynamic coastline.
- Offshore rock exposures and outcrops forming valuable habitats, including an intertidal wave-cut chalk platform from Newhaven to Brighton marina, sandstone outcrops off Bognor Regis (Kingmere Rocks) and outcrops off Littlehampton.
- Outer Owers limestone reef represents a major hazard to shipping especially in bad weather. The Looe Channel passes through groups of rocks and ledges to the west of the Owers.
- Harbours and estuaries relating to the Rivers Adur (at Shoreham by Sea), Ouse (at Newhaven), Arun (at Littlehampton) and Pagham Harbour.
- Pagham Harbour is internationally recognised for its rich biodiversity, particularly its birdlife. It fills and empties with each tide, creating a changing shoreline.
- Selsey Bill acts as a dividing point of coastal sediment transfer, defecting currents westward into the Solent and carrying sediment into Chichester Harbour.
- Historic features illustrating the strategic defensive role of this coastline. The westernmost in a series of Napoleonic Martello Towers is at Seaford while mid 19<sup>th</sup> century forts survive at Newhaven, Littlehampton and Shoreham.
- MCA's position on the Channel coast has produced a long and well-documented engagement in trade, transport and conflict, evidenced in the numerous wrecks which are now popular diving sites.
- Small recreational craft and fishing boats are the main sea uses with cross channel ferries from Newhaven–Dieppe and larger freight from the small ports.
- Sea-based recreational activities are popular, including watersports around Brighton, diving off Selsey Bill, bird watching at Pagham Harbour and fossil hunting on the beaches at Bognor Regis.
- Some of Britain's largest coastal resorts at Brighton, Worthing, Littlehampton and Bognor Regis. Coastal towns form a colourful and busy focus along the coast with hotels, attractions, piers and recreational activities.
- Brighton's niche as a cosmopolitan cultural centre continues a long tradition from the Prince Regent's 18<sup>th</sup>-19<sup>th</sup> century visits which produced the iconic Royal Pavilion.
- Artistic and cultural associations include the holiday camps at Selsey and Butlins at Bognor Regis, recognised in popular culture in songs by Madness and The Jam.
- Coastal defences are a key feature of the coastline, including groynes, concrete defences at cliff bases and Newhaven harbour wall.
- Views seaward are frequently to an unbroken horizon with the main shipping traffic being located at a greater distance into the channel. This creates a large scale and open sense of space.
- Important 'gaps' where the South Downs National Park meets the coastline at Telscombe Cliffs, Ovingdean and Roedean, breaking up the spread of development and forming key features.
- The Meridian line passes from the sea and through Peacehaven, marked by the Meridian Monument on top of the cliffs.



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For ease of reference, the following description text is arranged under three headings, considering the 'Natural', 'Cultural / social' and 'Aesthetic / perceptual' characteristics of the Marine Character Area. It should be noted, however, that all of these aspects combine and interact with each other to varying degrees to shape overall character.

### Natural influences

The MCA is a wide shallow bay, defined by the low headland spit of Selsey Bill to the west and the chalk cliff Heritage Coast of Beachy Head to the east (in MCA 8). The on-going processes of erosion and accumulation driven by the south-westerly winds and waves are a major contributor to the character and shape of this coastline, though eastward movement of sediment has been controlled by coastal defences in the form of groynes and seawalls along much of it. The most recent Shoreline Management Plan (SMP) proposes a mixture of artificial coastal defences and managed realignment for future management of areas within this MCA depending on the local context.

The coastal geology consists of a chalk strip which outcrops at Bognor Regis and continues westwards into the Solent. Inland this chalk strip forms the prominent chalk ridge of the South Downs National Park. In the south west of the MCA the geology comprises clay composites and mudstone. The coastline of the MCA is divided into two halves – low lying shingle beaches stretch along the west section as far as Brighton Marina, and high vertical chalk cliffs extend east of the marina to Seaford Head and beyond into MCA 8.

Strong tidal currents sweep around the low promontory of Selsey Bill. The coastline to the east is sheltered from the prevailing south-westerly waves by Selsey Bill, resulting in accretion from Pagham to Shoreham.



*Eroding chalk cliffs at Newhaven*

Selsey Bill is also a dividing point of coastal sediment transfer. The promontory deflects currents westward into the Solent, carrying sediment into Chichester Harbour.

Offshore rock exposures are a feature of this MCA. An extensive intertidal chalk platform and gullies extends from Brighton to Eastbourne (into MCA 8), up to 500m from the shore. A subtidal chalk platform extends from close to the shoreline between Newhaven and Brighton Marina, and underwater chalk cliffs stretch from Brighton to Worthing. The Sussex coast is reported to be the only location in the British Isles where chalk strata exist as both reefs and cliffs. Outcrops of sandstone occur off Littlehampton and in the reef off Bognor Regis known as the Bognor Rocks and Barn Rocks, the London Clay beds here also contain a large number of fossils.

A number of rock outcrops offshore and at the foreshore around Bognor Regis are designated for geological and marine biological value. The

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Kingmere Rocks and Worthing Lumps of sandstone outcrops and nearby boulders support a wide variety of marine life including a breeding site for Black Bream, bryozoans, coralline algae, sea squirts, sponges and starfish as well as Native Oysters, mussel beds, seals and occasional starfish.

The limestone reef south of Selsey Bill known as the Owers represents a major hazard to shipping especially in bad weather. Groups of rocks and ledges to the south of Selsey Bill are passed through by the Looe Channel. Within the Outer Owers the Shoal of the Lead marks where the sea bed drops steeply from 0 m to 67 m and there are powerful overfalls. There is also the Mixon Hole, a steep cliff of clay capped by limestone which is a Marine SNCI and popular diving spot. It is believed to be a segment of an ancient river gorge swept clear by tidal currents. Tidal currents increase around the headlands, particularly the shallow grounds at Selsey.

Three rivers enter the sea within the MCA. These are the rivers Adur (at Shoreham by Sea), Ouse (at Newhaven), and Arun (at Littlehampton). Accumulation of sediment occurs at these estuaries where the features interrupt the south-easterly movement of long shore drift. Spit dunes occur at two estuaries where sediment from the river provides the material for the spit which is then shaped by coastal currents.

Pagham Harbour is a spit and delta formation. It contains mudflats, sand flats, salt marsh and grazing marsh and is internationally recognised for its ecological value particularly for the number of bird populations it supports, recognised with a number of designations including Ramsar Site. It is also an RSPB Reserve and a popular location for bird watching. Dunes have also formed at Climping Beach, at the mouth of the River Arun at Littlehampton, as well as a spit which

has formed across the estuary at Shoreham (River Adur) and sediment accumulated at Newhaven Harbour (River Ouse).

The estuaries are popular spawning grounds for Dover Sole, and are also important migratory routes for sea trout and eels/elvers. Native Oyster are particularly noteworthy at Peacehaven, Brighton Marina and Seaford Bay, none of which are subject to oyster harvesting. The European Eel is found in Brighton Marina.



*Shingle beach at Saltdean and the South Downs National Park beyond*

### **Cultural / social influences**

There are a number of wrecks in the MCA indicating activity in trade, transport and war thousands of years ago; this includes over 100 wrecks near Selsey. The coast was historically of strategic importance for trade, transport and defence due to its proximity to the continent across the Channel. A sea and beach battle at Selsey in around 896 is recorded, involving a fleet of Viking ships against those of Alfred the Great's newly founded navy.

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The wrecks attract a rich diversity of marine life and are popular diving spots, including the *Briggita*, a steamer schooner which sank after striking a mine in 1917 on passage from Barry to Dieppe. the liner *Shirala* which sunk in 1918 on its way to India after being struck by a torpedo, and *HMS Northcoates*, which sank in 1944. The famous yacht *Morning Cloud* was wrecked at the Owers as a result of a gale in 1973. A protected wreck site at Brighton Marina is thought to be a unidentified armed vessel which probably dates to the 16th century or possibly even the late 15th century; significant to the evolution of ships during this period.

The Sussex coast has historically been a target as landing places for invasion. There were many small forts and gun batteries built along the coast for thousands of years. At the time of the threat from a Napoleon invasion, new batteries were built at Bognor, Selsey and Brighton. Littlehampton Fort and Shoreham Fort were built later, in the Victorian period as their importance as trading ports increased. They were also experiments in fortification and the guns were positioned to defend and command the harbour entrances. Littlehampton fort has now largely been overwhelmed by vegetation. Newhaven fort was built in the 1860s but there have been previous defences on the site dating back to forts in the Bronze Age and Roman period. The last of the series of Martello Towers is located at Seaford. There were once over 100 Martello Towers built between the east coast in Suffolk and the south coast at Sussex in the Napoleonic period to defend the coast against possible invasion from France.

There have been a large number of archaeological finds in the intertidal area, demonstrating the process of coastal retreat and how the coastline has changed over time. Flooding led to the extinction of the old town of Brighthelmstone (near to present day Brighton), though little

evidence has been discovered of its remains. There were also lost communities in Cudlow (south of Climping), parts of Middleton and houses around Selsey Bill. Many of the original river ports were previously situated further inland but sedimentation of rivers meant that they had to be relocated. For example the port at Old Shoreham was relocated to Shoreham-by-Sea and the original port on the River Ouse was once as far north as Lewes, after which it moved to Seaford and then to its current position at Newhaven.

Today the major commercial ports in the MCA are Newhaven and Shoreham, with Littlehampton providing more limited commercial facilities. Newhaven provides cross-channel passenger ferry services to Dieppe and both ports support the import and export of cargo, especially aggregates. Most of the harbours are now used for recreational yachting e.g. Brighton Marina. The main fishing ports or landing areas are Newhaven, Brighton, Shoreham and Worthing, but there are also beach landings in places along the coast and some small fisheries, for example the crustacean fishery at Selsey Bill. Fish landed are mostly of the cod family and flatfish, shellfish, whelks are landed at ports.

Since 1861, there has been a lifeboat station to the east of Selsey Bill, and there is a system of beacons that warns sailors of the Owers and Mixon rocks that are south of Selsey Bill. Diving is especially popular at the Mixon Hole, near to Selsey, and the MCA is also popular with recreational boats. Sea-based recreational activities include watersports around Brighton, bird watching at Pagham Harbour and fossil hunting on the beaches at Bognor Regis.



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*Newhaven port*



*The beach and lifeboat station at Selsey*

The coastline of the MCA is almost entirely developed, with a mixture of residential and coastal resorts including Brighton, Worthing, the iconic Butlins at Bognor Regis and Littlehampton. Brighton is a historic seaside city which expanded rapidly following the arrival of the railway

in 1841. Groynes are used extensively across the coast from Selsey Bill to Brighton Marina and sea walls from Brighton to Littlehampton and around Newhaven, extending the influence of landward development into the sea. There are also piers at Brighton and Worthing which provide a focus of activity, movement and light along the coastline.



*Brighton pier and beach*

## **Aesthetic and perceptual qualities**

The South Downs National Park is located inland, parallel to the coast, forming the backdrop to the urban areas extending to the coast in the eastern part of the MCA. The “*stunning, panoramic views to the sea*”<sup>2</sup> is a key characteristic and special quality of the National Park. The South Downs landscape is characterised by open downland with few vertical elements, views to and from the sea play an important part in shaping the character of both landscape and seascape here.

The gaps between the urban areas where the South Downs extend to the coast are particularly important for providing a sense of space and visual connections to and from the sea. These locations are between Brighton and Rottingdean, between Saltdean and Peacehaven (set

<sup>2</sup> [http://www.southdowns.gov.uk/data/assets/pdf\\_file/0017/180017/SDNPA\\_Special\\_Qualities.pdf](http://www.southdowns.gov.uk/data/assets/pdf_file/0017/180017/SDNPA_Special_Qualities.pdf)

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back slightly from the coastline) and between Newhaven and Seaford.

The coastline of the MCA is largely developed, with linear urban coastal seaside towns stretching along most of its length. The coastal towns of East and West Sussex are relatively easily accessible from the densely populated south-east of England, and the coast is used as an open space for a large number of visitors, both for day trips and holidays. Piers at Brighton and Worthing add lights, colour and activity out to sea and recreational boats and vessels also animate the seascape here.

Landmarks include the gasometer at Selsey Bill onshore, the windmill at Roedean and occasional masts at areas such as Peacehaven. Selsey Bill is a low point which can be difficult to locate in poor visibility but the hotel on the western side of the spit provides a navigable landmark.

Key aesthetic features of the MCA are the sheer white cliffs which stretch from the east of Brighton to Newhaven – and further along become the Seven Sisters and Beachy Head within MCA 8 – and the wide shingle beaches of Selsey, Bognor Regis and Brighton. The white cliffs have long been a source of inspiration for art and literature. The wideness and uniformity of depth of the bay creates an expansive seascape, which despite the ports, commercial vessels, fishing boats and recreational craft, results in a relatively uninterrupted horizon.

Further cultural associations include the holiday camps at Selsey which have long been a popular holiday destination for Londoners and are recognised in popular culture (e.g songs by Madness and The Jam). Butlins Holiday Camp opened in Bognor Regis in 1960 by Sir Billy Butlin and the international Bognor Birdman is an annual competition for human-powered 'flying' where contestants launch themselves from

the end of the pier. The Meridian line passes through the MCA, marked by the Meridian Monument on the cliffs at Peacehaven, erected by local residents in 1936 (also to commemorate the reign of George V). This white monument is visible in views from the sea.



*Gap in the development providing views to the South Downs. The windmill at Roedean is on the right.*

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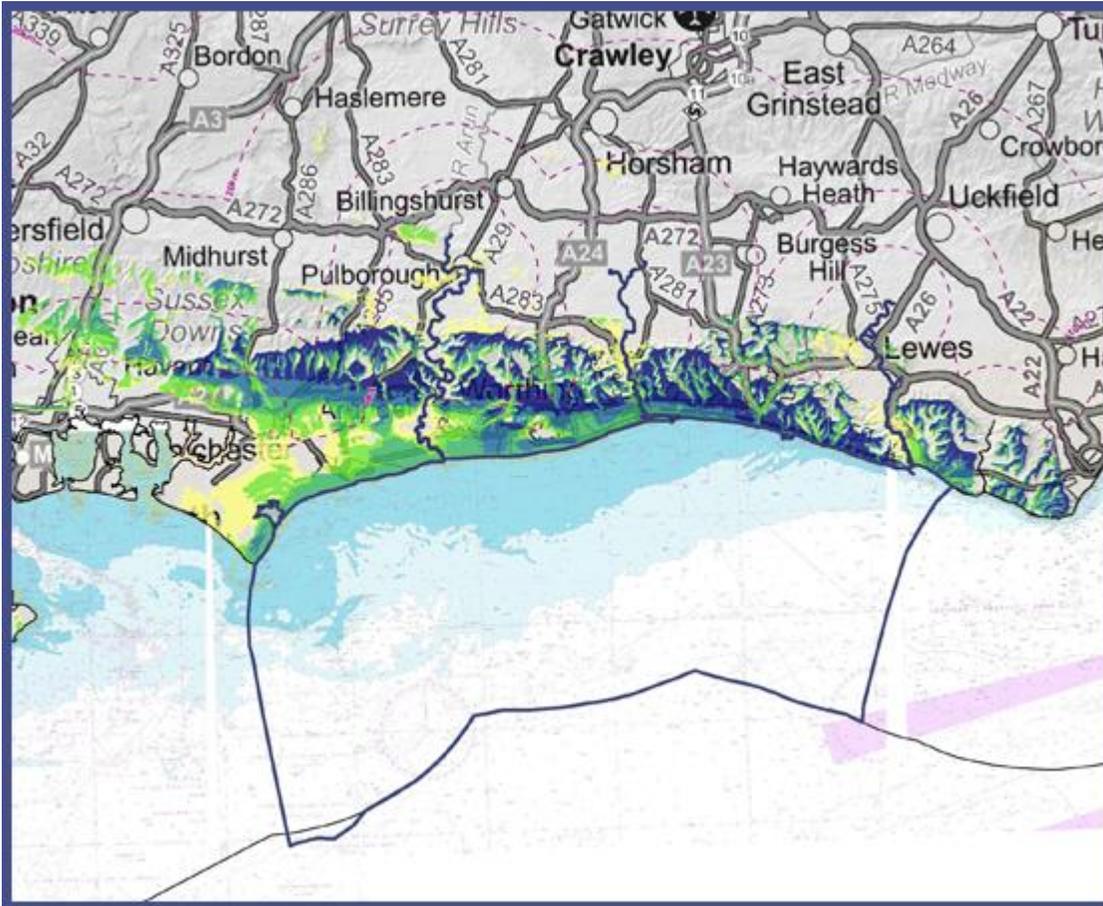
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## Land with views of MCA 7



South Inshore/South Offshore marine plan areas

MCA 7: Selsey Bill to Seaford Head

Land with sea views (percentile)



- Extensive views of the MCA can be obtained from large areas up to 10km inland, from the western edge of Eastbourne to Walderton (within the South Downs National Park and including sections of the South Downs Way).
- Some sea views are also afforded from the edge of Shanklin and Bembridge Downs within the Isle of Wight AONB.
- Some views of the MCA can be obtained from the coastline between Selsey Bill to Hove, Seaford and from parts of the Seven Sisters Country Park.
- Views of the MCA are more limited from East Wittering to Beachy Head on the mainland.
- Elevated inland locations including Droxford, Old Winchester Hill, Butser Hill, east of Kingsley Green, Byworth, Nuthurst and Staplers on the Isle of Wight have some sea views, but they are not very extensive.

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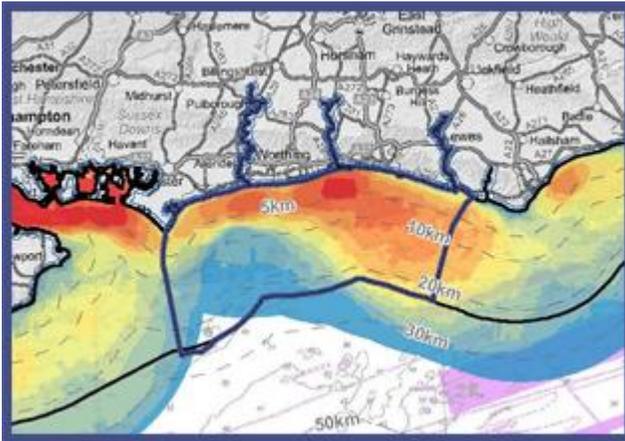
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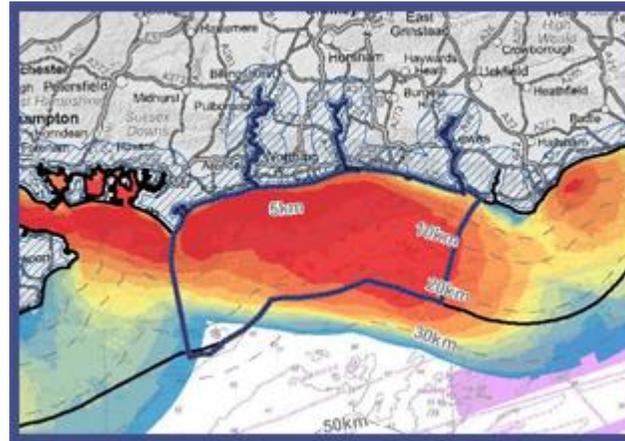
Visual Resource Mapping

## Visibility of sea from land

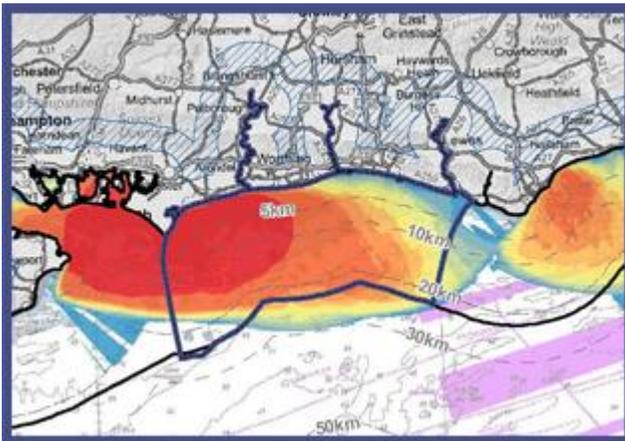
Relative visibility of the sea surface from viewers on land



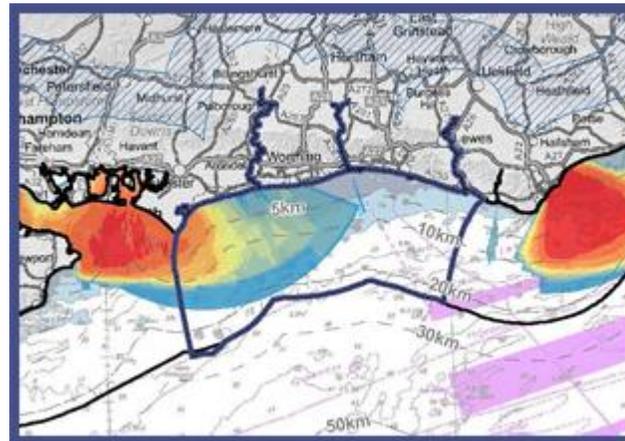
0-1km from the High Water Mark



1-5km from the High Water Mark



5-10km from the High Water Mark



10-20km from the High Water Mark

South Inshore/South Offshore marine plan areas

MCA 7: Selsey Bill to Seaford Head

Location of viewers

Visibility of sea from land (percentile)

1 to 10	11 to 20	21 to 30	31 to 40	41 to 50
51 to 60	61 to 70	71 to 80	81 to 90	91 to 100

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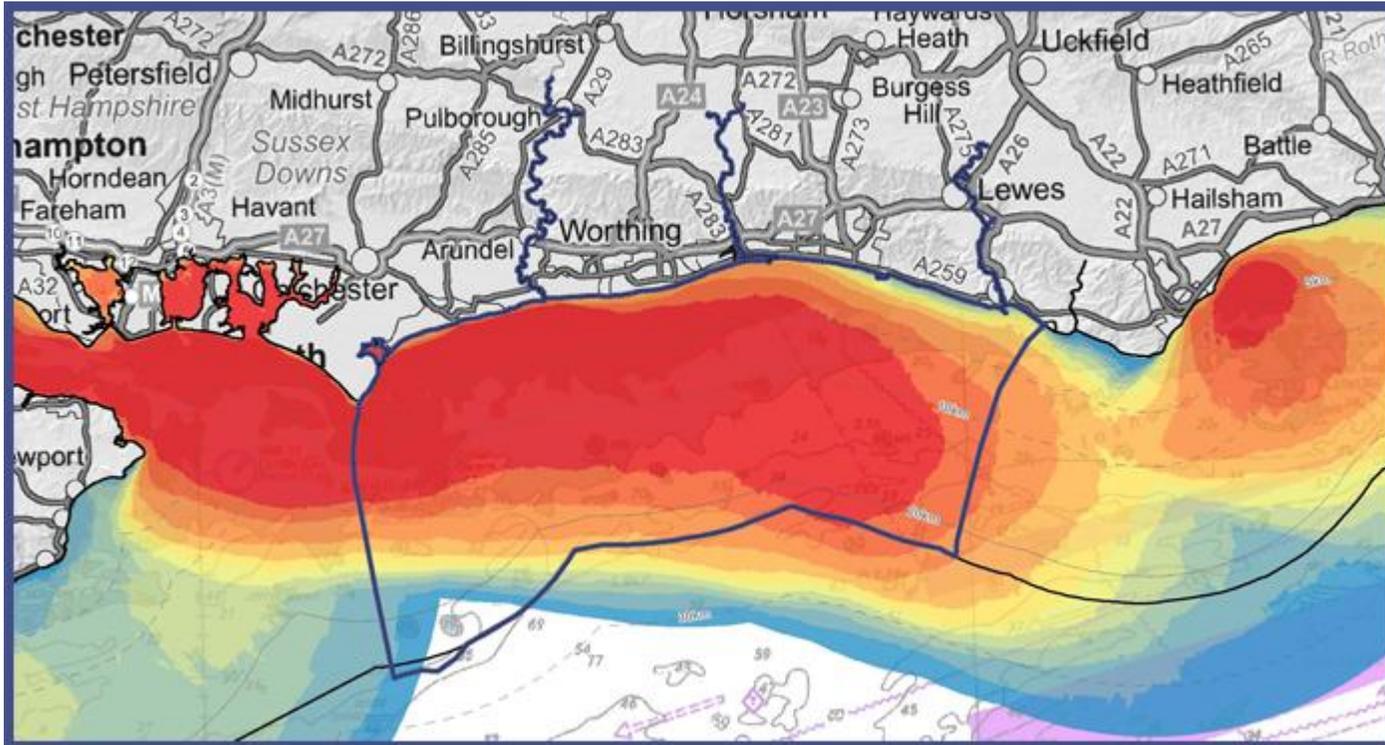
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## Visibility of sea from land

Relative visibility of the sea surface from viewers on land



- The majority of the MCA is highly visible from the land.
- Offshore, between Seaford and Worthing, visibility increases steadily towards the middle of the MCA.
- At approximately the 20m depth contour, offshore visibility gradually decreases towards the southern edge of the MCA. Visibility of this section is likely to be affected by atmospheric conditions for much of the year.
- The south western corner of the MCA is not visible from land.

Up to 20km from the High Water Mark

South Inshore/South Offshore marine plan areas

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Visibility of sea from land (percentile)

