



Seascape Assessment for the South Marine Plan Areas

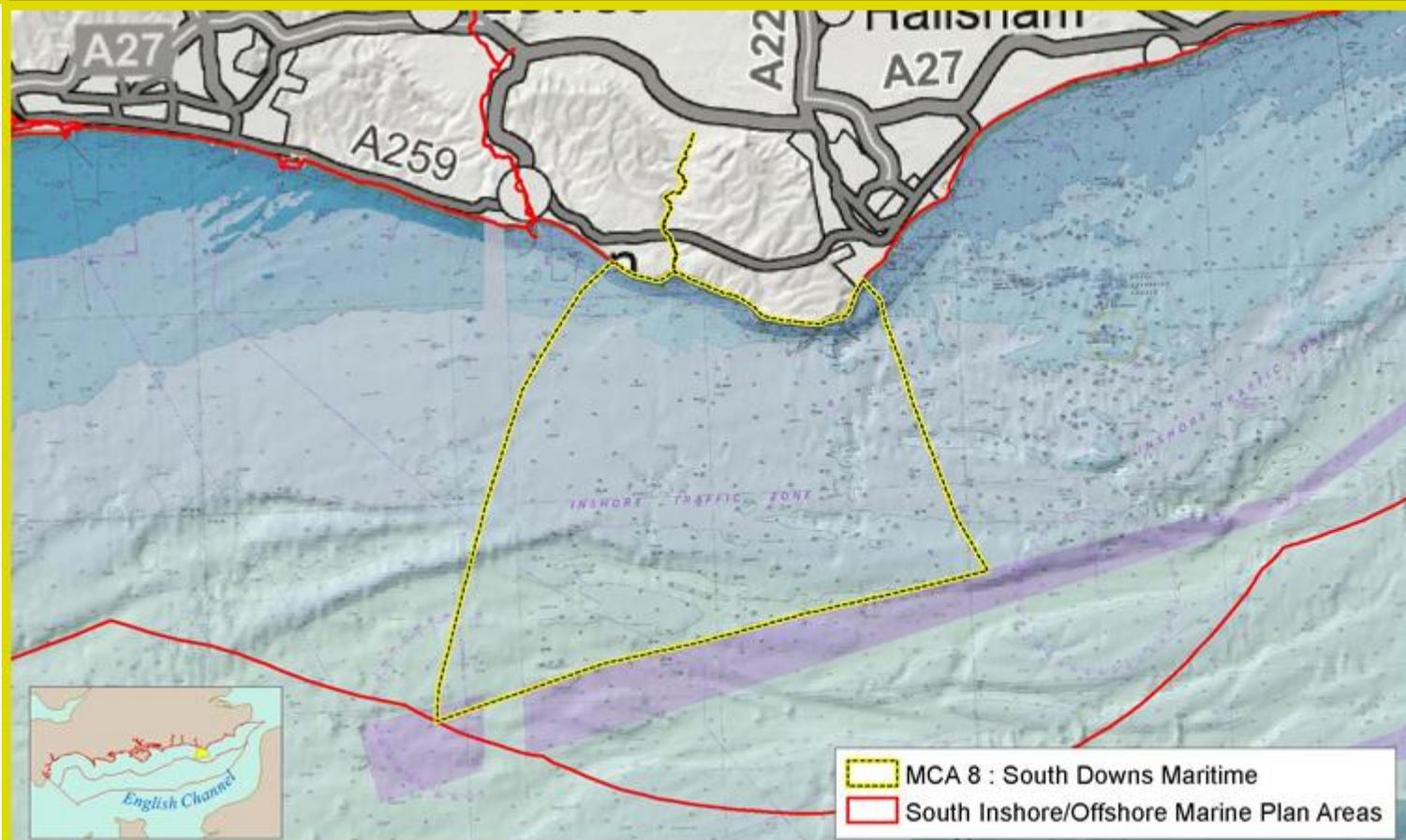
MCA 8: South Downs Maritime

Snapshot

Key Characteristics

Description

Visual Resource Mapping



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Location and boundaries

This Marine Character Area (MCA) is co-incident with the area of coastline defined as the Sussex Heritage Coast along the distinctive white cliffs of the Seven Sisters and Beachy Head between Seaford and Eastbourne. It is the maritime extent of the South Downs National Park (recognising that the National Park contains significant sea views from inland area to the west as well (within MCA 7)). The transitional boundaries of the MCA are formed in the west by the point of Seaford Head, the headland separating MCA 6, and by the extent of the cliff line of Beachy Head in the east. The southernmost boundary of the MCA is broadly consistent with the boundary of the South Inshore Marine Plan Area and follows the line of the inshore traffic zone. It extends to a maximum of approximately 20 kilometres (11 nautical miles) offshore.

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

The coastline was the first Heritage Coast to be designated, and consists of the Beachy Head and Seven Sisters chalk cliffs. The MCA is characterised by chalk bedrock which is exposed in the distinctive, steep cliffs on the coastline. The chalk subtidal and intertidal habitats, cliff geology, geomorphology and diverse inshore habitats are internationally important, and the sheer white cliffs, with the landmark red and white lighthouse are iconic symbols of the coastline of the south-east. Birling Gap is a near-complete cross section of a dry valley, whilst Cuckhaven Estuary is a rare undeveloped estuary. Strong tides race around Beachy Head which has been the site of many shipwrecks over the years, partly as a result of the large volumes of maritime traffic using the English Channel. Views between land and sea are particularly important, especially from panoramic viewpoints on the chalk cliffs of the South Downs.

Adjacent National Character Areas (NCAs)

The adjacent coastline includes the following NCAs as defined by Natural England¹:

- 126: South Coast Plain
- 125: South Downs

Adjacent nationally protected landscapes

All of the coastline falls within the South Downs National Park and the majority is defined as part of the Sussex Heritage Coast.

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

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- A predominantly undeveloped chalk headland where the South Downs National Park meets the sea. Chalk bedrock outcrops as the sheer chalk cliffs which form the distinctive Seven Sisters and Beachy Head, over 150m high.
- Cliffs of great importance for geomorphological features including chalk caves, stratigraphy and a near-complete cross section of a dry valley at Birling Gap.
- The sheer vertical cliffs result in a relatively small intertidal area with shingle beaches present at Seaford, Cuckmere Haven and Birling Gap.
- A wave-cut chalk platform extending from Beachy Head to Cuckmere Haven, cut by narrow gullies which run perpendicular to the coast, supporting rich biodiversity.
- The chalk foreshore reef and sandstone and chalk boulders on the shore are rich in marine life including blue mussel beds, native oysters and long- and short- snouted seahorses.
- Continuing erosion of the cliffs by sea waves resulting in a receding and changing coastline. Slabs of chalk frequently fracture and fall away and as the lower cliff material is worn by the waves, with the cliffs above undermined until they eventually collapse.
- Water depth increases sharply off Beachy Head reaching a maximum of 20m in less than 1km. Deep water with significant currents and dramatic tidal swells and overfalls create rough seas and a high turbidity of water.
- Important habitat for birds on Beachy Head, including fulmars, kittiwakes and peregrines. The cliffs are a popular place for watching migrating birds as well as marine wildlife, including bottlenose dolphins.
- Dangerous coastal waters and proximity to the Channel's shipping lanes have left numerous shipwrecks in the area, supplemented by those from the Battles of Beachy Head (1690 and 1916).
- Inshore and offshore fishing includes crustacean fishing and bass, though trawling is restricted within quarter of a nautical mile from the shore.
- A coastline rich in iconic landmarks, including the Belle Tout lighthouse on the cliffs of Beachy Head, and red and white lighthouse at the foot of the cliffs.
- The area is popular with visitors using the beaches at Cuckmere and Birling Gap including for recreational fishing and recreational craft sailing.
- The MCA forms an important undeveloped section of coastline within the largely developed south coast. It is also one of the longest stretches of undefended chalk cliff in the country.
- A strong sense of tranquillity and undeveloped seascape associated with the South Downs National Park. This includes the undeveloped Cuckmere Haven estuary and beach which, while much visited, retains a tranquil character.
- The South Downs National Trail runs along the cliffs; sea views are a key part of the experience of this route and integral to the special qualities of the National Park.
- Beachy Head is a popular landmark, providing extensive elevated views out to sea to an uninterrupted horizon.
- Cultural associations with the sea include Kipling, such as his poem *Sussex*, J.M.W. Turner's *Beachy Head: Looking toward Newhaven* and Virginia Woolf.



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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 iconic and prominent white chalk headland of Beachy Head and cliffs of the Seven Sisters characterise the coastal section of this MCA. The chalk bedrock making up almost the entire MCA is part of a south-west orientated strip of chalk which outcrops at the cliffs of Beachy Head and the Seven Sisters and continues inland as the South Downs. Offshore it stretches beneath the English Channel and forms part of the northern rim of the Hampshire – Dieppe Basin, which in its western extent continues under the Isle of Wight and the Needles to Old Harry Rocks and the Purbeck Hills (MCAs 4 and 5). Overlying the chalk bedrock are thick sand/ mixed sediment deposits with some boulder outcrops of greensand forming an extensive boulder field.

The steep chalk cliffs of Beachy Head which reach nearly 170m high and the cliffs and hanging dry valleys of the Seven Sisters create a dramatic undulating cliff line which provides a cross section through the chalk, with excellent exposures of Lower, Middle and Upper Chalk formations. There is great geological and geomorphological value including the chalk stratigraphy, Beachy Head Cave, fossils of the Cretaceous and Lower Tertiary periods and Quaternary features at Cow Gap and Birling Gap. The near-complete section through a dry valley at Birling Gap is internationally important.



Birling Gap and the Seven Sisters

Water depth increases sharply off the coast of Beachy Head reaching a maximum of 20m in less than 1km. The deep water and shelving seabed results in significant tidal currents and dramatic tidal swells and overfalls, creating rough seas and a high turbidity of water. A berth of two miles around the south of Beachy Head is necessary for vessels navigating in heavy weather due to the overfalls and rough water.

The main influence on the configuration of the coastline has been the processes of erosion and deposition by the south-westerly waves. There has been significant erosion of the chalk cliffs over the years, which remains a rapid and ongoing process with the cliffs receding at approximately 30-40cm per year. Remnants of past land-slips are visible as part of the chalk foreshore which extends from Beachy Head to Cuckmere Haven and is up to 200m wide.

Unique and extensive subtidal chalk platforms, ridges and gullies occur in the MCA beneath the cliffs in the intertidal area and below the low

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water mark. These represent one of the best examples of subtidal chalk in the region and provide a wide range of habitats and a rich and diverse marine life, reflected in its recommendation as a Marine Conservation Area. Gullies within the rock extend out to sea and deepen as the sea deepens. The Pound is a very complex foreshore comprising eroded reefs with channels, pools and lagoons bounded by a high barrier reef of Upper Greensand; several species rare for south eastern England occur here.

The chalk foreshore reef and sandstone and chalk boulders on the shore are rich in algae, as well as sponges, Blue Mussel Beds, Native Oyster and Long- and Short- snouted seahorse. The cliff faces and inshore habitats are also rich in biodiversity. Relict cliff top chalk heath is a rare habitat type which supports many species of flora including heather and bell heather and invertebrates including the crane fly. The sparsely vegetated cliff faces are sheltered and south-facing and support species such as the adonis blue butterfly.

The Cuckmere Estuary to the west of the MCA is a tranquil landscape, with its classic meanders and oxbow lakes and supporting a range of habitats including salt marsh. It is important for spawning and nursery areas for a range of fish species, with areas for breeding, wintering and passage birds and supports rare flora. Shingle banks occur either side of the mouth of the Cuckmere River, supporting flora as well as a number of uncommon centipedes, some of which have been recorded from nowhere else in the UK.

Cultural / social influences

The MCA has a long history of shipwrecks, located in a narrow section of the English Channel and near to one of the busiest shipping lanes in the world. There are stories of people luring vessels to run aground by

tying lanterns on cattle on top of Beachy Head, which in the dark and from a distance would appear to be other ships. Looting of shipwrecks was a profitable business. Shipwrecks include the *Polynesia*, a German sailing ship that run aground in 1890 which is occasionally visible at low tide near the Cuckmere Estuary. In addition, casualties from the first and second Battles of Beachy Head (1690 and 1916) are present as wrecks on the seabed.

Parson Darby's Hole is an excavated cave 6m above high water, on the cliffs of Beachy Head. The cave was hollowed out of an existing cavern at the beginning of the 18th century by a local parson who was concerned about the large number of shipwrecks and casualties off Beachy Head. It includes a chimney that led up from the coast and rooms above it where he sat with lights on ledges on stormy nights to warn passing ships of danger.

The large numbers of wrecks and casualties gave rise to construction of the most prominent human features of the MCA: two distinctive lighthouses: the Belle Tout on top of Beachy Head and the red and white lighthouse at the bottom of the cliff. The 'new' red and white Beachy Head lighthouse was built in 1902 to replace the Belle Tout and in combination with the white cliff of Beachy Head, forms an iconic image of the Sussex coast.

The Belle Tout was the original lighthouse, which still stands today but has been converted many times and is now a hotel. Petitions for a lighthouse at Beachy Head as a result of the large number of shipwrecks along the dangerous stretch of coastline, finally led to the construction of the lighthouse in 1832. The location was planned so that the light would be visible for 20 miles out to sea, and it would be obscured by the edge of the cliff if sailors were too close to the shore.



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Beachy Head lighthouse

However, erosion of the cliff over the years meant that the light became ineffective and a new lighthouse was built at the bottom of the cliff. The lighthouse was deconstructed and rebuilt 17m back from the edge of the cliff in 1999 to save it from collapse due to continued erosion. Beachy Head has also played an important defensive role. The Battle of Beachy head took place in 1690 during the Nine Years War and the Second Battle of Beachy Head was in 1916 during World War I where around 30 merchant ships were sunk by German U-boats. The cliffs also previously housed an RAF radar station used during World War II and the Cold War.

The most prominent prehistoric features comprise hillforts (Seaford Head and Belle Tout) and barrows (Crowlink), many of which may well have been visible from the sea, thereby informing travellers that the fertile cliff top farmland was already occupied. Features on the coastal edge take advantage of the commanding landmark cliffs, including coastal beacons, coastguard barracks (to combat smuggling) and a range of military sites from Napoleonic batteries through to Second

World War pillboxes.

There is widespread fishing within the MCA, including crustacean fisheries off Beachy Head, bass fishing and heavy fishing with static gear. However, the Sussex Sea Fisheries Byelaw restricts trawling within $\frac{1}{4}$ nm from the shore, protecting the chalk and habitats of the seabed. Recreational fishing and angling is also popular around Cuckmere and Birling Gap.

The area is popular with visitors using the beaches at Cuckmere, and recreational craft sailing – although there are limited launching facilities from the cliff edge. Popular recreational activities include bird-watching, hang-gliding, walking on the South Downs Way, visitors to the Seven Sisters Country Park – all against the backdrop of the sea. The cliffs also have a long association with climbing.



Sailing yacht within the waters of the MCA

The Cuckmere valley was once a salt marsh due to a historic sea level rise which turned it into a shallow tidal estuary. However, the Victorians



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reclaimed the area and coastal defences have retained the valley to protect farmland from flooding.

Over the years coastal defences have had to be increasingly built up in order to defend against sea level rise. However, the implemented Shoreline Management Plan will not invest further coastal defences and instead a managed realignment scheme will gradually return the Cuckmere Haven to a more 'natural' estuary system. The coastline of the MCA is almost entirely undeveloped, and is protected through its designation as a National Park. It is also one of the longest stretches of undefended chalk cliff in the country.

Aesthetic and perceptual qualities

There are strong visual connections between land and sea within the MCA as well as to other adjacent MCAs, with views sometimes reaching as far as Selsey to the west and Dungeness to the east, particularly from panoramic viewpoints on Beachy Head and the South Downs National Trail. Here it is possible to experience the grandeur of the cliffs and their elemental qualities, wind, seabirds, changing colours and dynamics of the sea and a strong sense of wildness and remoteness.

Sea views are a key part of the experience of this coastal landscape, providing a major resource by which people engage with the seascape character of this MCA.

The undeveloped character of the coastline is particularly important due to its context close to large urban areas and the developed south-east of England. A strong sense of tranquillity and unspoilt landscape and seascape is associated with the South Downs National Park and the important undeveloped estuary at Cuckmere Haven. This has an open

access foreshore and a remote and tranquil beach which is nevertheless much visited. There are views up the classic meanders and oxbow lakes of the Cuckmere valley.



Cuckmere Haven

Beachy Head is the highest chalk sea cliff in the UK. Its name derives from a combination of the 13th and 14th century French words *Beauchef* and *Beauchief* meaning 'beautiful head (land)'. The cliffs of Beachy Head have been, and still are, a prominent landmark for navigation through the English Channel. The red and white lighthouse is also a landmark feature, which, next to the white cliff of Beachy Head is one of the iconic images of the south-east coast.

The South Downs National Park has no coastal boundary and extends into the MCA, with the sea being an integral part of its character. One of the special qualities of the South Downs National Park is its '*stunning panoramic views to the sea.... culminating in the impressive chalk cliffs at Seven Sisters*'².

The steep white cliffs at Beachy Head and Seven Sisters are distinctive

² http://www.southdowns.gov.uk/data/assets/pdf_file/0017/180017/SDNPA_Special_Qualities.pdf

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and of great natural beauty by virtue of their scale, visible geology and lack of built development, with contrasting colours of sea, cliff face and land. This relatively remote seascape is experienced from the South Downs National Park and National Trail.



Beachy Head and the South Downs Way

There are panoramic views of sea, as well as exposure to weather conditions rolling in from the sea. The opportunity to experience natural elements is rare in the densely populated and developed south-east of England. The seascape has long been a source of inspiration. Artistic and literary associations with the area include Virginia Woolf, painter Vanessa Bell and the Bloomsbury set who made their homes in and around the Ouse Valley, and Kipling who lived at Rottingdean. Kipling wrote about the influence of the noise of the sea on the quiet Downs in his poem 'Sussex' in 1902. Beachy Head figures in the Romantic movement in the arts, demonstrating man's insignificance in the presence of nature. This is depicted in the paintings by J.M.W. Turner (*Beachy Head looking toward Newhaven*, 1794–97). Beachy Head also has a darker association with suicides dating back many hundreds of years.



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Land with views of MCA 8



South Inshore/South Offshore marine plan areas

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Land with sea views (percentile)



- Locations with the best views of this MCA can be found at East Dean (in the Sussex Heritage Coast and including sections of the South Downs Way) as well as areas around Seaford, Newhaven and Woodingdean.
- Elevated land within the South Downs National Park have good views of the MCA. Locations with good views of the MCA are largely found within 5km of the coast.
- Other areas of land with some views of the sea can be located on the edges of Worthing within the High Weald AONB.
- Areas with some limited views of the MCA extend along the coast from Cissbury Ring to Bexhill and inland from Hadlow Down (+10km), Wolstonbury Hill and Steyning (5-10km).
- There are large areas of land relatively close to the MCA that have no sea views including around the shore at Brighton, and inland between Lewes and Polegate, then extending towards Pevensay Bay.

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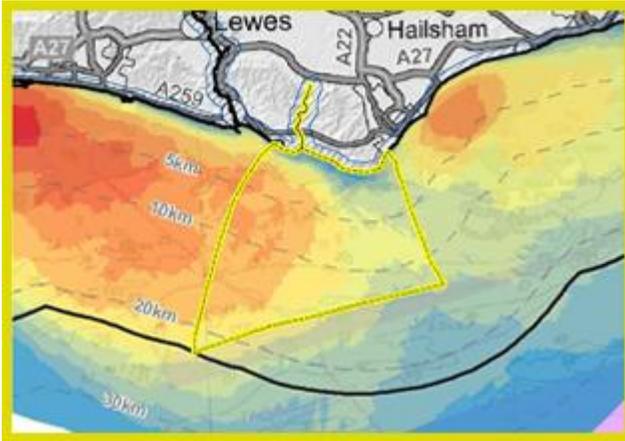
Key Characteristics

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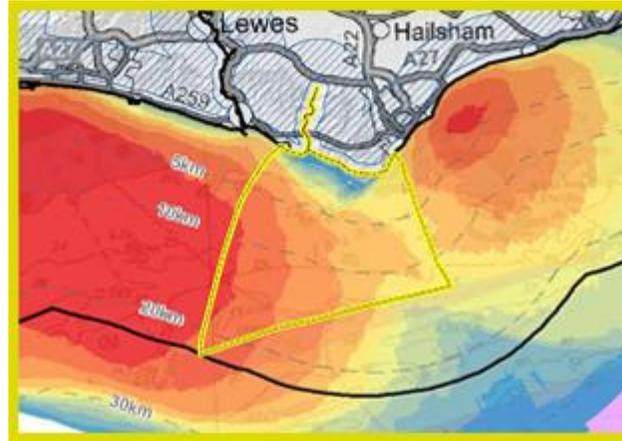
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Visibility of sea from land

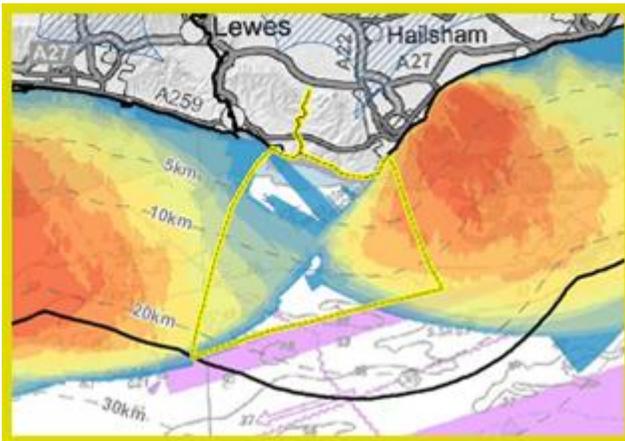
Relative visibility of the sea surface from viewers on land



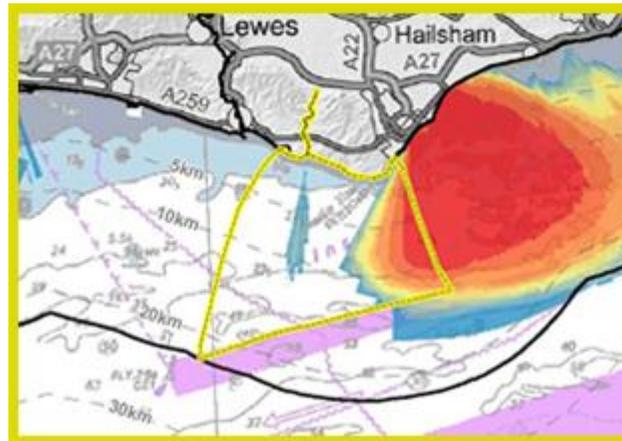
0-1km from the High Water Mark



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

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Location of viewers

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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Snapshot

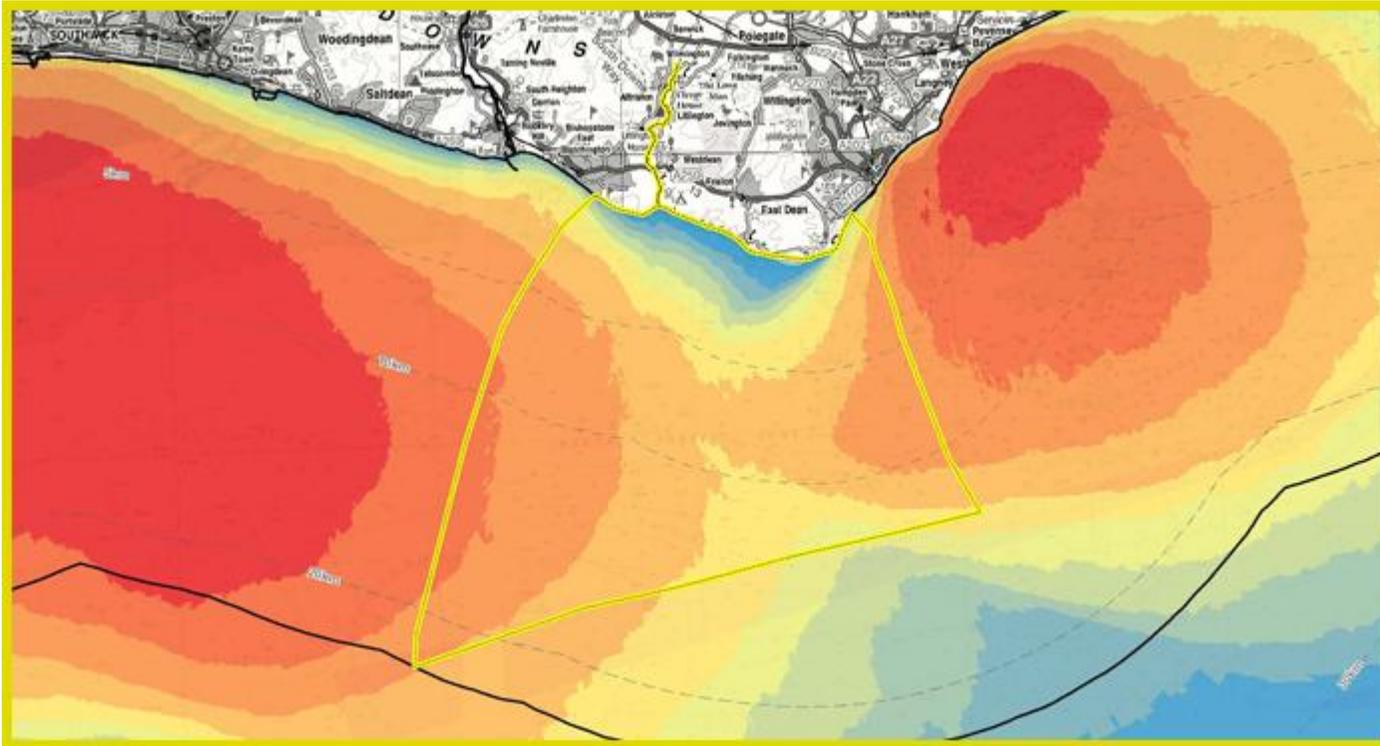
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Visibility of sea from land

Relative visibility of the sea surface from viewers on land



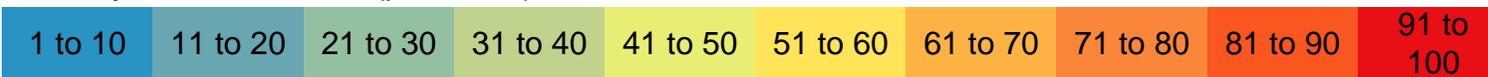
- This MCA can be seen from relatively few locations on land.
- The areas with the lowest visibility are within the shadow of Beachy Head between Head Ledge and Cuckmere Haven.
- Visibility increases in the centre of the MCA, beyond the influence of Beachy Head.

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)



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