



# Seascape Assessment for the South Marine Plan Areas

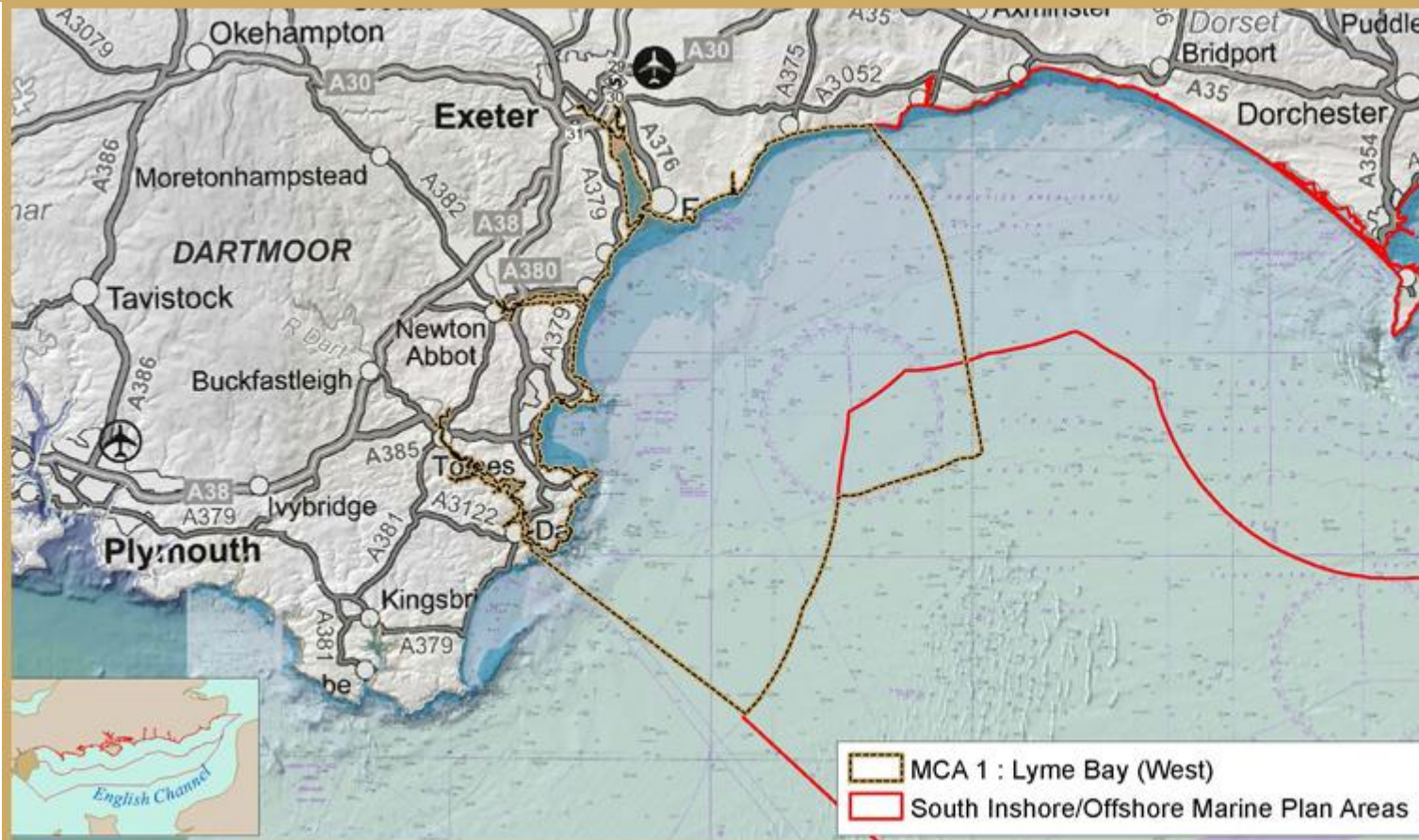
## MCA 1: Lyme Bay (West)

Snapshot

Key Characteristics

Description

Visual Resource Mapping



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## Location and boundaries

This Marine Character Area (MCA) covers the western part of the wider Lyme Bay from the River Dart in the west to Branscombe in the north east, including the estuaries of the Dart, Teign, Exe and Otter. Its seaward boundary with MCA 14 extends to a maximum distance of approximately 35 kilometres (19 nautical miles) offshore and a maximum depth of approximately 60 metres, in part following the South Inshore Marine Plan Area boundary and partly following the 50m bathymetry contour line. Its eastern boundary with Lyme Bay East (MCA 2) is formed by the distinct change in onshore geology. The boundary extending offshore from Dartmouth follows the limit of the South Inshore Marine Plan Area as it meets the South West Inshore Marine Plan Area (8).

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. This MCA is particularly related to MCA 2 (Lyme Bay (East)); together providing a description of the expansive Bay as a whole.

## Overall character

The MCA's warm climate, calm waters and sheltered nature in combination with its many bays and estuaries provides the ideal environment for both people and a diverse mix of wildlife. Tor Bay, otherwise known as the 'English Riviera', is a highly populated section of coastline and an extremely popular tourist resort with its busy coastal towns and golden sandy beaches. The area's calm and gently shelving waters provide favourable conditions for a wide range of water-based activities and historic refuge for sailing vessels, including tankers from the Channel. In contrast, the northern coastline is more isolated, defined by tall, unstable red cliffs forming part of the wider Jurassic Coast World Heritage Site.

The coastline includes some of the most ancient rocks in the region, including fossils, as well as evidence for early man. Napoleonic defences and strong associations with maritime warfare – including the Spanish Armada (ships built in Exeter and Topsham) and 2<sup>nd</sup> World War, as well as continuing Naval associations result in an area steeped in history. Internationally important estuarine, coastal and marine habitats support diverse coastal and marine wildlife, including rich fish stocks fuelling the economy of the major fishing port of Brixham. Despite its largely sheltered and calm conditions, the area is exposed to easterly storms; when in force having a dramatic impact on perceptual qualities. Panoramic views are afforded across the Bay, with long views of the distinctive wedge-shaped Isle of Portland (MCA3) in clear conditions.



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## Adjacent National Character Areas (NCAs)

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

- 147: Blackdowns
- 148: Devon Redlands
- 151: South Devon

## Adjacent nationally protected landscapes

The coastline from Exmouth to the eastern landward extent of the MCA boundary falls within the East Devon Area of Outstanding Natural Beauty (AONB) with the area around the Dart Estuary and the south side of Tor Bay falling within the South Devon AONB. The northern extent of the coastline from the mouth of the Exe Estuary to Branscombe lies within the wider Dorset and East Devon World Heritage Site ('Jurassic Coast'). In addition, the coastline and coastal waters from Southdown Cliff to the south-western extent of the MCA are within the South Devon Heritage Coast; and the north-eastern coast and waters are within the East Devon Heritage Coast.

The UNESCO English Riviera Global Geopark covers the coast and seas of Torbay; internationally recognised for its rich geological, historical and cultural heritage.

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

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- Large sweeping crescent shaped bay punctuated by smaller bays and narrow, steep sided rias and the major coastal estuaries of the Exe, Teign and Dart.
- Internationally valued cliff exposures, displaying varied rock formations spanning some 185 million years of the earth's history.
- Geomorphological features such as stacks and sea caves as well as highly unstable tall, soft red cliffs between Branscombe and Sidmouth subject to frequent mudslides and landslips.
- Smooth sea floors covered by fine sand and mud sediments, particularly thick around Tor Bay and the mouth of the Exe.
- Sheltered location from prevailing winds resulting in favourable conditions for recreational sailing, and safe anchorage for the area's fishing fleet within its harbours and estuaries.
- Generally calm sea conditions within the Bay, with gently shelving waters (reaching a maximum of 60 metres) and a low tidal range.
- Estuary mouths with a tidal range of up to five metres, strong tidal streams and shifting channels providing hazards to navigation.
- Internationally and nationally designated coastline and marine habitats including the estuary systems, sand dunes of Dawlish Warren, spits, saltmarshes, coastal reefs and sea caves.
- Thriving marine life on the underwater reefs, boulders and bedrock ledges, as well as sediment deposits from the surrounding rivers.
- Wrecks on the largely sedimentary sea floor offer a hard substratum and further habitats for marine life (as well as popular dive sites).
- Evidence of early human artefacts in Kent's Cavern dating back half a million years. Their clear associations with extinct fauna gave critical evidence for the antiquity of man to mid-19<sup>th</sup> century debates.
- The area had well-established medieval and later trade links with far-flung ports, including in Spain, Italy and the Baltic States – with ships carrying sought-after cargo such as brandy and wine: the wrecks of some providing testimony to this.
- Defensive coast with strong associations with the Napoleonic and Second World Wars, including D-Day landing practices. Shipping, aircraft and other equipment losses litter the seabed.
- Nationally important Berry Head Fort and Hardy's Head Battery occupying a prominent position above Tor Bay as part of a strong assemblage of defensive structures along the wider coastline.
- Live firing and military practice at Straight Point Rifle Range and within the Bay. The Royal Naval College at Dartmouth further strengthens the area's significance to maritime defence.
- Rich literary and artistic associations, with the area favoured by artists capturing the rugged coastline and changing light conditions.
- One of the region's major commercial fishing and shellfish ports at Brixham, with a large fleet of trawlers, potters, netters and handliners taking advantage of the rich fish stocks of the area.
- Popular tourism destination from the late 18<sup>th</sup> century onwards following the arrival of the railways. The Tor Bay area is known as the *English Riviera* for its warm climate and busy coastal resorts.
- Coastal edge crossed by the South West Coast path offering panoramic sea views
- Busy waters and coastline around the harbours and estuaries, with extensive commercial and recreational activities. Pockets of contrasting tranquillity within the wooded estuary fringes and sections of remote, open cliffs.
- Distinctive red sandstone cliffs prominent in views from the sea (and used for navigation), interspersed with often white-coloured houses and hotels standing out in front of a wooded and pastoral backdrop.
- Expansive views across the Bay and out to the Channel, frequently marked by cargo ships and tankers using the shipping lanes.
- Mainline railway linking resorts in the west providing an opportunity for people travelling through to experience views of the red cliffs and open waters of the Bay. They also experience the wild conditions of the seas when an easterly storm surge is in force.



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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 character.

### Natural influences

This is a remarkably diverse coastal landscape, strongly defined by outstanding strata visible in the cliffs, largely made up of Permian and Triassic red breccias, sandstones and mudstones with some bands of limestone. Cretaceous rocks cap the Triassic formations between Beer (MCA 2) and Sidmouth. The south facing coastline lies within the wider East Devon and Dorset World Heritage Site, including sheer red cliffs between Branscombe and Sidmouth subject to frequent landslips and landslides. The height as well as the rich red colour of these cliffs dominates the character of this part of the MCA, reaching a maximum of 162 metres Above Ordinance Datum (AOD) at Weston Cliff. Permo-Triassic sandstones here occasionally yield fossil remains, including of terrestrial reptiles originating from when the sediments were deposited at a time of arid environment. Abundant coral fossils are also associated with the rocks between Brixham and Torquay; with Tor Bay and its surrounding coastline also internationally recognised as a Geopark (English Riviera).

The majority of the coastline is dominated by more resistant Devonian cliffs, resulting in a rocky coastline (particularly compared to Lyme Bay East (MCA 2)) punctuated by the area's famous curving sandy bays, coves and prominent coastal headlands such as Hope's Nose and Berry Head, which flank Tor Bay. Wave action and coastal erosion has also created classic coastal geomorphological features such as wave-cut platforms, caves, ledges and sea stacks – the latter particularly popular as sea kayaking destinations. SSSI-designated cliff tops

support species-rich limestone grasslands, semi-natural woodlands with a diverse ground flora, and scrub. Berry Head includes the only stable breeding colony of guillemots on the south coast; whilst other nesting seabirds associated with the MCA's cliffs include kittiwake, fulmar and herring gulls, with Greater and Lesser Horseshoe bats inhabiting some of the sea caves.



*Recent landslide at Oddicombe Bay*

Offshore, the geology of the coast continues, with the seabed underlain by Permo-Triassic sandstone and mudstone, with a band of Jurassic mudstone and limestone further offshore. Outcropping areas of bedrock, as well as partially or fully submerged sea caves within the Lyme Bay and Tor Bay SAC host varied marine life, including seaweeds, kelp beds, sponges, limpets and winkles. Thin Holocene deposits of sand and mud cover the bedrock, with particularly thick (up to five metre) deposits associated with Tor Bay and the mouth of the Exe. Sediment moves from Tor Bay to a 'sink' at the mouth of the Exe Estuary, and a further net movement of material takes place eastwards into the Bay. The Bay is home to commercial species of fish and

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shellfish such as mackerel, bass, rays, lobster, scallops and crab, as well as four species of whales and dolphins. Harbour porpoises, bottlenose dolphins, common dolphins and long-finned pilot whales are known to visit the waters, as are basking sharks – using the area in the summer, filtering plankton from the surface waters.

### Cultural / social influences

Situated beyond the southern limits of Pleistocene glaciation in the UK, the MCA is situated in a zone across which a whole range of Pleistocene mammal species would have migrated in response to repeated climatic and environmental changes. Internationally important fossilised remains of Ice Age mammals, and evidence from early humans, are found in caves within the English Riviera Geopark near Torquay and Brixham. These remains spurred the development of the science of palaeontology in the Victorian era and have contributed internationally to understanding the evolution and migrations of early humans.

Evidence for occupation in the later Bronze Age and Iron Age periods include nationally important ancient field systems on Wall's Hill, above Torquay and evidence of an Iron Age promontory fort on Berry Head. A scattering of Bronze Age and Romano-British material has also been found across the headland, with remnants of strip fields suggesting the area was farmed communally in the medieval period.

Lyme Bay has a long standing association with the defence of Britain, including the shipyards at Exeter and Topsham which built galleons for the Spanish Armada. William, Prince of Orange landed in Brixham in 1688 with his mainly Dutch army, with many local residents today retaining Dutch surnames. Defensive activity gathered momentum during the Napoleonic Wars in the early 19<sup>th</sup> century. The prominent Berry Head Fort and Hardy's Head Battery began to be built as early as

1794, as a response to threats arising from the American War of Independence. These formed part of a very strong defensive network, the remains of which represent a major and rare survival of a monument of the Napoleonic era on the south coast. Tor Bay also provided big-ship anchorage for the fleets blockading Brest (Brittany) during these conflicts.

In more recent history, the Bay was used for *Exercise Tiger*, a practice run for the D-Day landings (which used Slapton Beach in Devon). Unfortunately disaster struck the operation when German E-boats attacked a convoy of follow-up troops in the Bay, killing 683 American Army and Navy personnel. Wrecks from the two World Wars litter the seabed, including submarines and fighter planes brought down in battle. Military associations continue today with live firing taking place at Straight Point Rifle Range and the location of the Royal Naval College overlooking the anchorage at Dartmouth. Part of the inshore waters are also designated as a firing practice area.

Another key cultural and historic influence shaping the MCA's seas and coastline is international trade and fishing activity. Access to Exeter, via the Exe Estuary and 16<sup>th</sup> century canal, has long been important for maritime trade. Teignmouth has also been a major trading port for over 300 years, and was a major centre for trade with the Newfoundland fisheries. Its commercial use continues, with some 800 ship movements per year<sup>2</sup>.

Large numbers of ship wrecks at harbour and estuary entrances, many the casualties of heavy storms, reveal the diverse origin and cargos of vessels sailing through the Bay over the centuries. Today, the wrecks are popular scuba diving sites and provide additional habitats for marine life.

<sup>2</sup> Cunliffe, T (2010) *The Shell Channel Pilot: Sixth Edition*. Imray, Cambridgeshire.

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Brixham was the largest fishing port in the South West in the medieval period, and by the 1890s around 300 trawling vessels were based in the port, most individually owned. Today it remains one of the main deep sea commercial fishing ports on the south coast – landing species such as cod and hake from the Atlantic as well as the range of fish and shellfish exploited from the local waters. Beam trawlers are regular features on the local waters, travelling to and from Brixham, followed by flocks of seagulls. Lobster and crab potting, scalloping and mussel harvesting in the Exe combine to produce a thriving local fishing industry.

The Tor Bay area developed as a popular tourist destination from the late 18<sup>th</sup> and early 19<sup>th</sup> centuries, where people came to enjoy the mild climate, take in the sea air and bathe in the warm waters at one of the sandy bays.



*A Brixham trawler*

Many limestone quarries were worked both around Torquay and Brixham to provide stone for Regency and Victorian development, especially the exclusive cliff top resort of Torquay. The Victorian villas

that give much of the resort town of Torbay its distinct character are the result of a planned development programme to accommodate visiting gentry. Supplemented today by modern tourism developments and 20<sup>th</sup> century housing extending up the hillsides, the white and pastel-coloured buildings, as well as rows of colourful beach huts, stand out prominently in views from the sea.

The sheltered and calm waters provide some of the finest sailing conditions along the British coast with over 50 sailing events held in the Bay each year including heritage races, local regattas and international rallies. Recreational watersports provide a valued economic income to the area with waterskiing, kite surfing, scuba diving being popular pursuits. This, in combination with the commercial fishing boats, fishing charters, pleasure cruisers and sailing vessels creates a very busy marine environment around Tor Bay.



*Paignton seafront with heritage steam train and colourful beach huts*

### **Aesthetic and perceptual qualities**

This is an area of contrasts, from the busy developed resorts and estuaries in the west, to the more isolated and tranquil coast to its north



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and east. Perceptual qualities throughout are greatly influenced by weather and sea conditions, with periods of calm seas and clear skies affording expansive views across the scenic coastline, across the Bay (including strong intervisibility with MCA 2) and out to the Channel. Seaward horizons are frequently marked by the silhouettes of ships and cargo vessels travelling through the English Channel.

Conversely, when the weather closes in and a full storm surge is in force, a wild and untamed character prevails, with waves lashing the low-lying coastline in the west, including the mainline railway line. Storms have led to observers being swept out to sea by the high waves, further emphasising the dangerous conditions that can prevail.

The sheer red cliffs so closely linked to this coastline are key to its distinctive sense of place. They feature strongly in views from the sea from a significant distance offshore, long providing a navigational guide into the area's ports and harbours. Landward vistas through the characterful bays open up into the quintessential Devon countryside behind, with rolling pastoral farmland divided by substantial Devon hedges extending up to the cliff edge. Areas of broadleaved woodland also contribute to the naturalistic character, extending perilously down cliffs in parts, with white and pastel-coloured housing and caravan sites standing out prominently against the lush green backdrop.

The picturesque qualities of the area have been appreciated for centuries, with the resorts of the affectionately known 'English Riviera' expanding rapidly through the arrival of well-to-do Victorians with the railways. Visits to the sea for rest and recuperation became a growing trend, particularly for the wealthy. For example, the Darwins visited Torquay in the hope that it would improve the health of their daughter, Henrietta Emma Darwin. Emma Darwin's diary is filled with references

to Henrietta's recuperation while at Torquay in July and August 1861<sup>3</sup>. In addition, artists and writers have been drawn to the scenic coastline, as for Lyme Bay as a whole, for hundreds of years. These include Charles Kingsley, the late 19<sup>th</sup> century author to the Victorian philanthropist Baroness Burdett-Coutts, as well as Dame Agatha Christie. Christie was born in Torquay and lived much of her life in the area, famously referring to Kents Cavern in her thriller *The Man in the Brown Suit*. The Agatha Christie Mile walk leads around the seafront, featuring some of the locations linked with her life.



An 1840 lithograph of Babbacombe, T. Fidler<sup>4</sup>

<sup>3</sup> <http://www.darwinproject.ac.uk/>

<sup>4</sup> Taken from Crown Estate (2011) A coastal historical resources guide for England. Crown Copyright.



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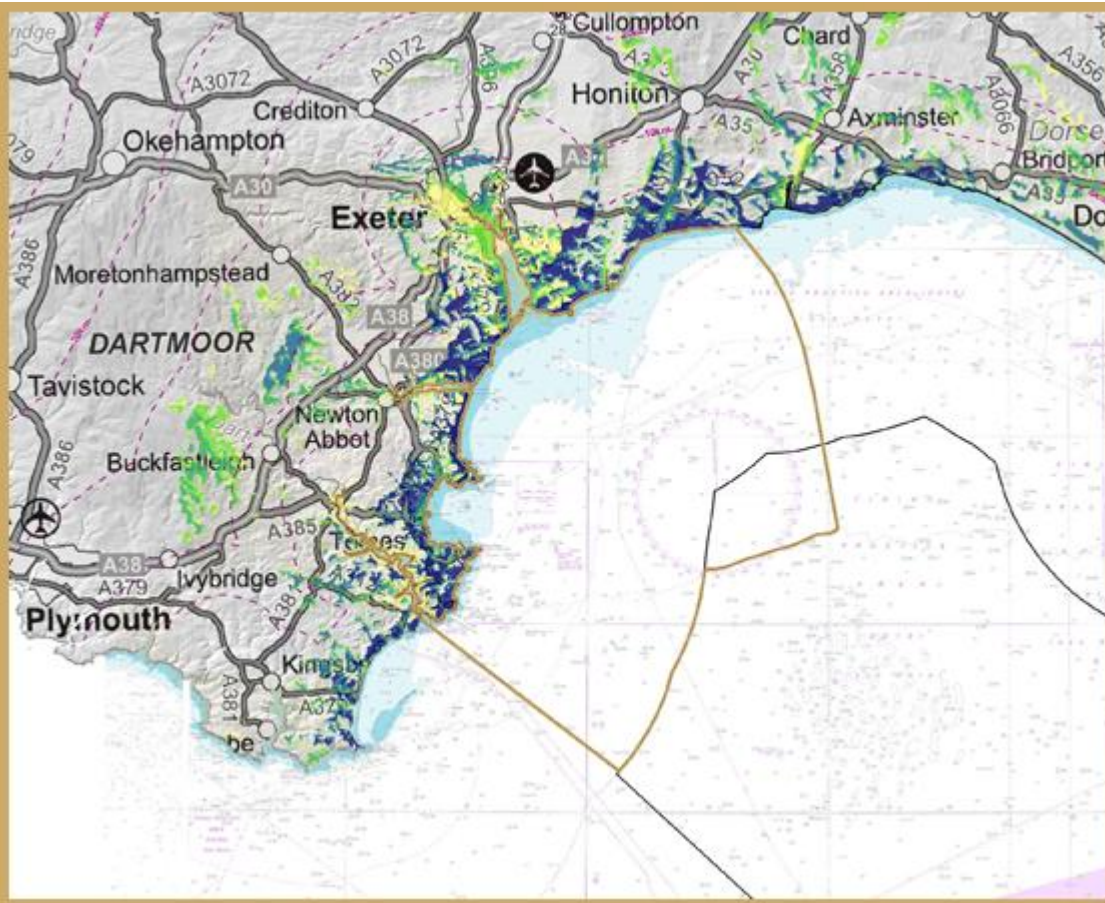
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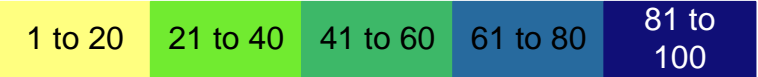
## Land with views of MCA 1



South Inshore/South Offshore marine plan areas

MCA 1: Lyme Bay (West)

Land with sea views (percentile)



- Areas of land with views of MCA 1 extend along the coast from south of Malborough, Devon and the western fringes of the South Devon AONB to Portesham, West Dorset including sections of the South West Coast Path.
- Higher ground along the coastline including around Brixham, Paignton, Torquay, Teignmouth, and Exmouth; between Otterton and Beer; and stretches of the East Devon Heritage Coast between Seaton and the western extent of Lyme Regis have views of this MCA.
- Smaller areas of land with extensive views include areas between Start Point and Dartmouth within the South Devon Heritage Coast, and along the Dart and Exe valleys.
- Areas with relatively good views of MCA 01 include locations near Buckfastleigh and Christow, north of Silverton and near Broadhembury, Chardstock, Bettiscombe and Askerswell.
- Some views can also be obtained from elevated inland locations including the western fringes of Dartmoor National Park and just north of Bishopwood, Somerset.

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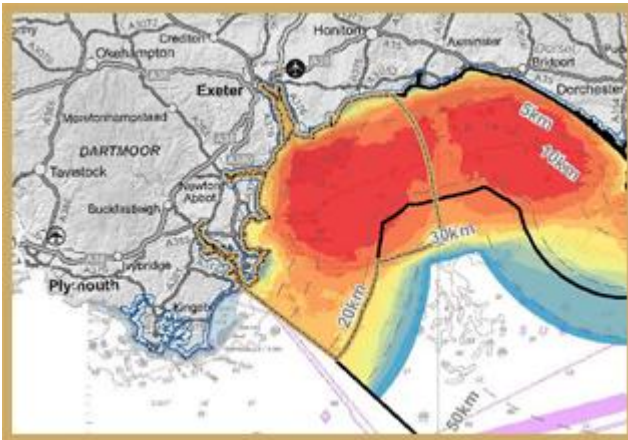
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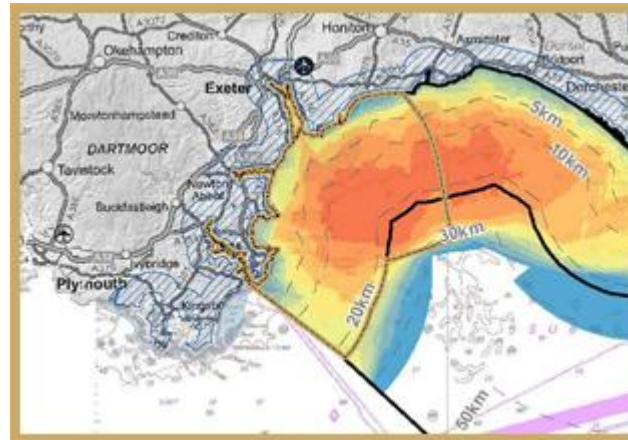
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## Visibility of sea from land

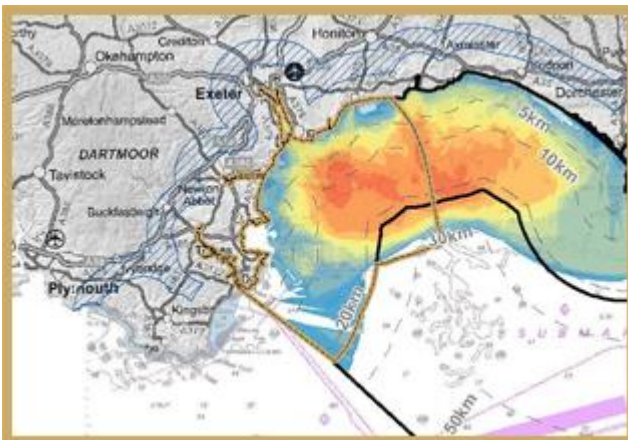
Relative visibility of the sea surface from viewers on land



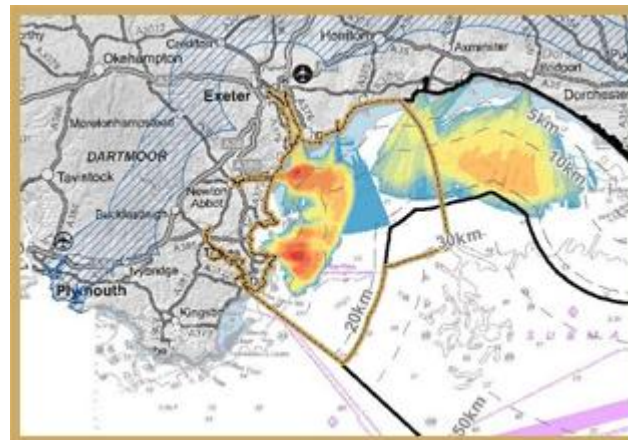
0-1km from the High Water Mark



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

MCA 1: Lyme Bay (West)

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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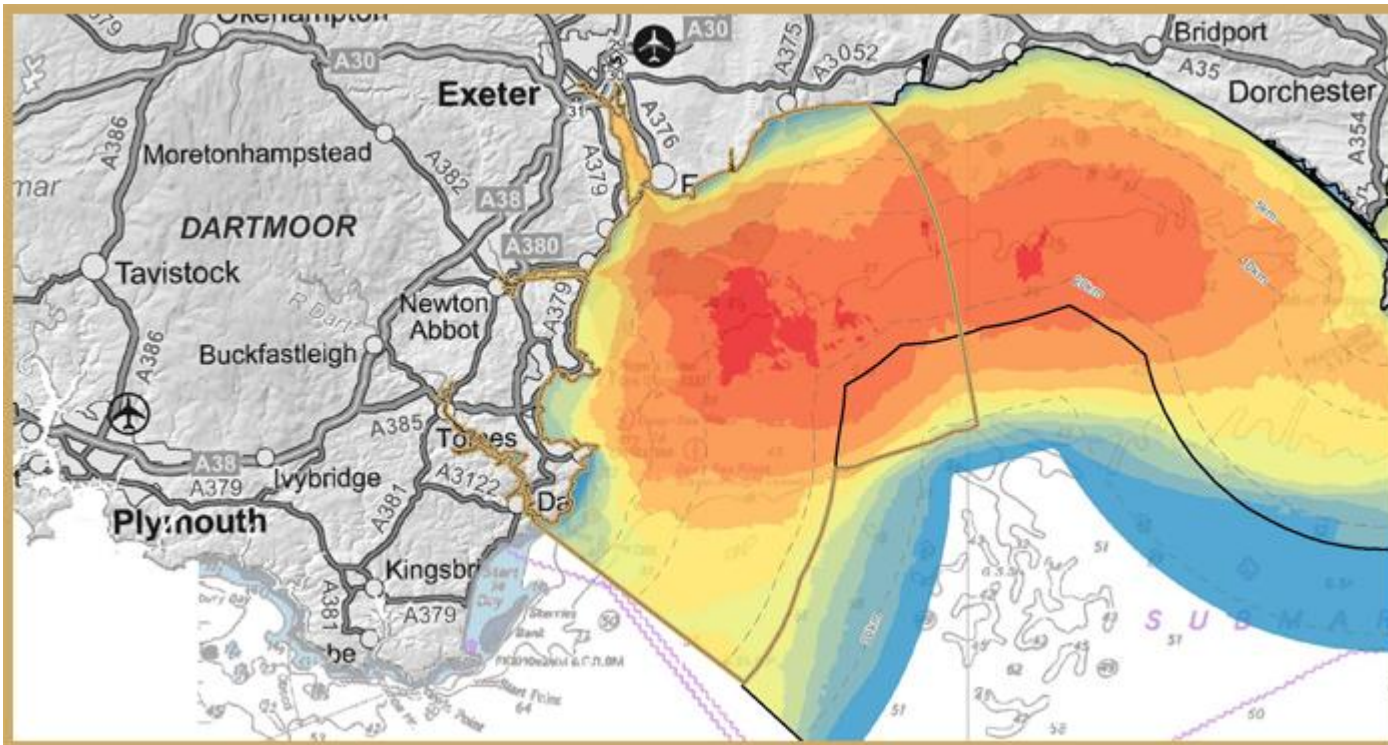
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## Visibility of sea from land

Relative visibility of the sea surface from viewers on land



Up to 20km from the High Water Mark

South Inshore/South Offshore marine plan areas

MCA 1: Lyme Bay (West)

Location of viewers

- Areas of the MCA classified as being the most visible from the land include a large zone between 5-20 km (3-11 nautical miles) offshore east of the Teign Estuary, and a small area approximately 10km (5 nautical miles) south of Seaton.
- Visibility gradually increases offshore towards the middle of the MCA.
- Visibility of the MCA dramatically increases offshore out from the Exe & Teign Estuaries and coastal headlands of Berry Head, Hope's Nose, Straight Point and Otterton Ledge.
- The southern extent of the MCA, offshore from Dartmouth, is the least visible from the land.
- The south eastern corner of the MCA is more than 20km offshore and visibility of this section is likely to be affected by atmospheric conditions for much of the year.

Visibility of sea from land (percentile)

