

Location and boundaries

This Marine Character Area (MCA) comprises the Welsh part of the Bristol Channel, roughly coinciding with the South Pembrokeshire coast in the west to Lavernock Point, near Penarth, in the east.

- The MCA's extent is consistent with how the Channel is spatially defined by the International Hydrographic Organization (IHO).
- The outer boundary is formed by the Wales Inshore Marine Plan Area. Please note that the Bristol Channel extends into English waters, as indicated in the map above.
- It forms an extension eastwards from the Pembrokeshire local Seascape Character Area 43: Bristol Channel Offshore.
- The MCA includes significant areas of moderate to high and high wave climate.

Key Characteristics

Please note that the Bristol Channel continues into English Waters under the jurisdiction of the Marine Management Organisation as indicated in the map above. This MCA profile focuses on the area of the Channel found within Welsh waters.

Key Characteristics
Open sea with water depths ranging between 20 and 60 metres.
Along with the Severn Estuary (MCA 1), the Bristol Channel has the second highest tidal range in the world .
Channels run perpendicular to the east-west tidal currents , which accelerate in the east due to the funnelling effect of the land .
Exposure to weather rolling in from the Atlantic creates areas of high wave climate, along with an associated sense of danger during stormy conditions
Jurassic mudstone and limestone seabed , in parts overlain by Holocene deposits of sand and gravel which are licensed for dredging.
This includes the sand bank of Culver Sand, marked by light buoys warning of shallow water and changing depths.
The geometry and bathymetry of the sea floor and its sediments retain traces of the relict palaeochannels of the River Severn .
Includes the southern edges of the Carmarthen Bay and Estuaries SAC/SPA, which recognises the area's wide variety of seabed types .
Number of ship wrecks on the seabed tracing the historic shipping routes , including those as a result of collisions (e.g. early 20th century coal ships en route to worldwide destinations from Cardiff), and others mined during WWII.
Long-standing busy transport and trade route serving the major ports of South Wales and South West England, with thousands of ship movements per day.
Leisure sailing by larger boats and commercial craft also takes place within the MCA.
Sea with simple, open characteristics at a vast scale dominated by swell, waves and winds with a sense of remoteness.
The seascape's open character affords strong inter-visibility between the South Wales and North Devon coasts , including the Gower AONB, Exmoor National Park, North Devon AONB and Lundy Island.

Natural Influences

The character of the Bristol Channel is greatly influenced by the natural and physical environment as it has evolved over millennia. The funnelling effect of the adjacent land - the South West and South Wales coastline to the north and the North Devon/West Somerset coast of England to the south – has a profound effect on the physical conditions and overall character of this MCA. This includes the strength and range of the tides, the moderate-high wave climate which pervades, along with the susceptibility of the Channel to storms sweeping in from the Atlantic. Along with the Severn Estuary (MCA 1), the Bristol Channel boasts the second highest tidal range in the world at between 12 and 14 metres.

Prior to the creation of the Bristol Channel in the Holocene period – when the ice sheets melted and sea levels rose causing the area's rapid inundation – the landscape comprised a vast plain crossed by tributaries of the River Severn, evidenced by the presence of palaeochannels still traceable on today's seafloor. The watercourses have been a vital source of food and fresh water for both animal and human communities; they are also likely to have served as corridors of movement. Today, the Holocene-derived seabed sediments contribute to the challenging navigational conditions of the Bristol Channel, including in particular the narrow sand bar of Culver Sand. Despite its location in the middle of the channel, the shoal lies beneath shallow water of only two metres at low tide – a significant obstacle to large shipping vessels. Various buoys and navigational marks – including white flashing lights – warn of hidden obstacles such as Culver Sand to assist ships in safe passage.



Stormy weather moving over the open waters of the Bristol Channel

The influence of climatic conditions sweeping up the Channel from the Atlantic is reflected in the known vulnerability of the surrounding coastline to historic events. The Little Ice Age, which spanned a 200 year period from the 13th century, saw a period of climatic deterioration with frequent storm surges and gales, resulting in the inundation of coastal settlements by sand whipped in from the channel (e.g. the be-sanded borough and castle of Kenfig in MCA 26). Later in the medieval period, a massive flood event in 1607 is also

thought to have been caused by a storm surge. Thousands of people drowned, houses and villages swept away, farmland inundated and livestock destroyed on both shores of the Channel. The devastation was particularly severe on the Welsh side, with Cardiff the most badly affected town. Plaques up to 2.4 metres above sea level mark the height of the flood waters on the sides of the surviving churches, as a lasting reminder of this natural disaster.

The area's complex physical and natural influences combine to produce a unique marine environment. A small portion of the MCA to the east falls within the wider Severn Estuary SAC, whilst the area fringing the edge of Carmarthen Bay is also included in the larger SAC and European Marine Site – including in reflection of the area's diverse seabed habitats. The sandbanks are particular havens for fish, including commercially important stocks of plaice, turbot, whiting and rays.

Cultural/social influences

This MCA has strong historical and current associations with maritime trade and transport, with human activity having a strong influence on character. The importance of the wider Bristol Channel and Severn Estuary area for maritime trade burgeoned from the medieval period onwards; particularly following the Industrial Revolution which drove the major development and expansion of ports along the channel including Swansea, Cardiff, Newport and Bristol. The import and export of goods and raw materials through the channel to and from worldwide destinations supported this growth. Cross-channel trade with ports such as Barnstaple and Bideford also flourished during the same period – the exchange of locally sourced materials such as coal and limestone further feeding the prosperity and productivity of the wider region. The spatial distribution of ship wrecks across the MCA reflects the main trade routes. Reported losses in the Bristol Channel run to many hundreds over many centuries, including small wooden vessels engaged in coastal trade, as well as larger deep ocean-going voyagers such as barques and brigantines.

As well as trade and exploitation of the area's natural resources, the strategic role of the Bristol Channel as a key entry point into Britain by sea has long been recognised. Both the Roman and Viking fleets made approaches via the Bristol Channel and Severn Estuary and occupied the wider area. Ship wrecks associated with the two World Wars provide a legacy of the area's role in more recent conflicts, such as the steamship *Millisle* – which was transporting coal from Cardiff to Cork when she was bombed and sunk in March 1941. Vessels involved in D-Day embarked from Cardiff, Barry and Newport, travelling through this MCA en-route to the English Channel.

Today, the MCA retains its long-standing role in marine transportation, with thousands of commercial ship movements per day. Areas of the channel are also used by large tankers and container ships for anchorage while waiting to dock. The marine sediments found across the seabed support the national construction industry, with large areas licenced for aggregates dredging.

Recreational sailing and cruising between destinations along both the Welsh and English coasts is also an important economic activity, as well as fishing charter trips.

Aesthetic and perceptual qualities

As covered under the 'Natural influences' section, the orientation and channelled nature of the MCA make it susceptible to extreme weather conditions sweeping in from the Atlantic, including storm surges. During these periods a sense of danger and relative wildness can pervade despite views to settlement and associated 'safety' along the nearby coasts. The flashing lights from the navigation marks in the channel contribute to the night-time

character of the area and its skylines, including when viewed from both the Welsh and English coasts.

The open water allows expansive views across and beyond the MCA to both sides of the coast and beyond. These include views to major port-related development and wind turbines at Avonmouth, the industrial structures of Port Talbot (MCA 26) and Hinkley Nuclear Power Station (Somerset), and development at Swansea, Portishead, Clevedon and Weston-Super-Mare. Rural backdrops frame views, including the distant silhouettes of the South Wales uplands and the Brecon Beacons, Gower AONB (MCA 25) and Pembrokeshire Coast National Park (MCA 22), as well as the rising land of the Quantock Hills AONB and Exmoor National Park to the south. Lundy Island forms a charismatic feature to the south-west of this MCA, as do Flat Holm and Steep Holm within the English part of the Bristol Channel. The MCA itself provides a strong maritime setting the nationally protected landscapes found on both sides of the channel, and features in views seen by many thousands of people who live or travel through the surrounding coastline by road or rail.



Marine transportation within the Bristol Channel

The busy shipping lanes and regular glimpses of large-scale container ships and tankers travelling to and from the major ports bring this marine area to life, reinforcing its strong sense of place and long-standing role as a major seafaring route.

The Visual Resource Maps (VRM) that follow provide a more detailed spatial representation of the visibility of this MCA from the surrounding land in Wales. Please refer to the technical report for an explanation of how these maps were generated and how they should be interpreted.

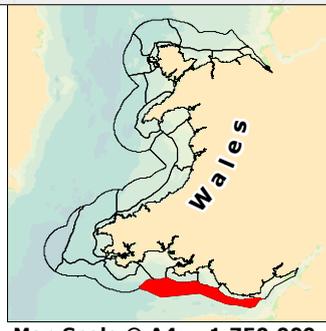
The first map shows land with views to this MCA, the darker shading indicating land where from which more of this MCA is visible.

The second map shows sea visible from land, the warmer colours being areas of sea that are visible from more places on land. This comes from a national assessment of Wales so the results do not relate specifically to this MCA, whose boundary is overlaid for location only. The four individual versions show how the results vary depending on how far inland hypothetical viewers are located.



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- 28: Bristol Channel (Wales)
 - Wales Inshore Marine Plan Area
- Land with sea views (Percentile)**
- < 20 (Lowest)
 - 21 - 40
 - 41 - 60
 - 61 - 80
 - 81 - 100 (Highest)



Wales National Seascape Assessment

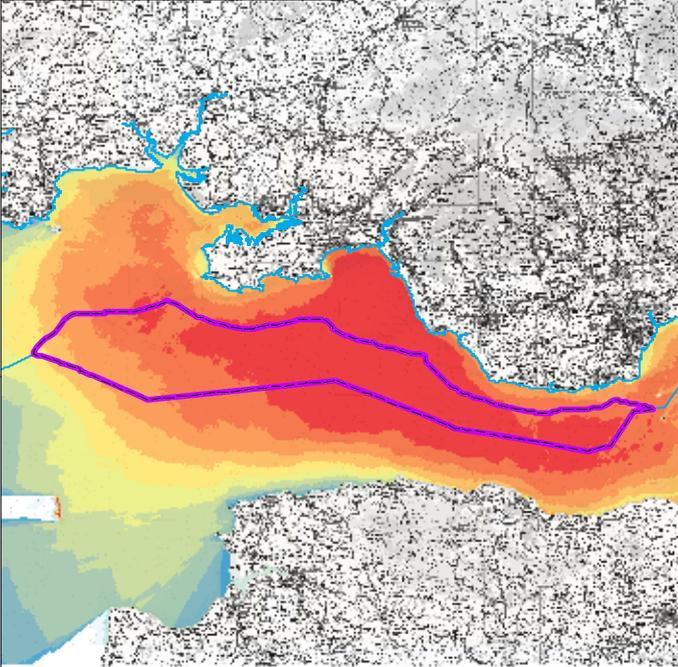
**Land with Views of:
MCA 28: Bristol Channel (Wales)**

Source: LUC, NRW, OceanWise

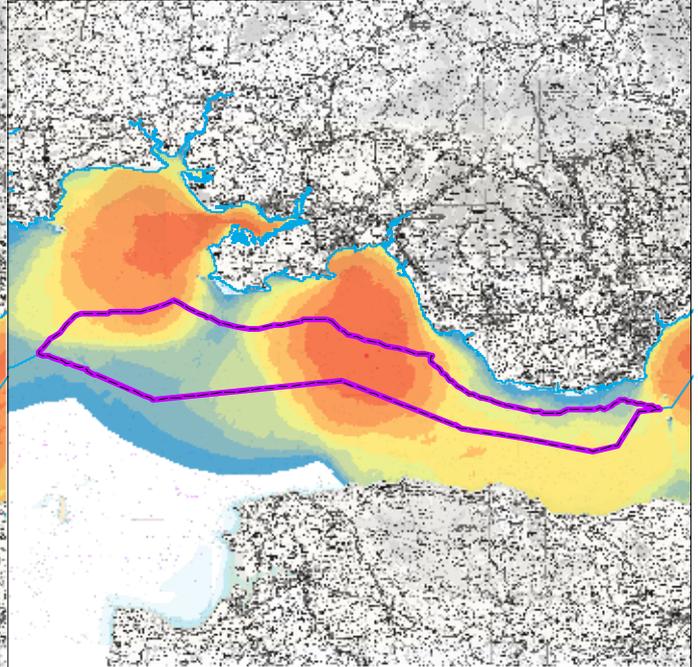



Map Scale @ A4: 1:750,000

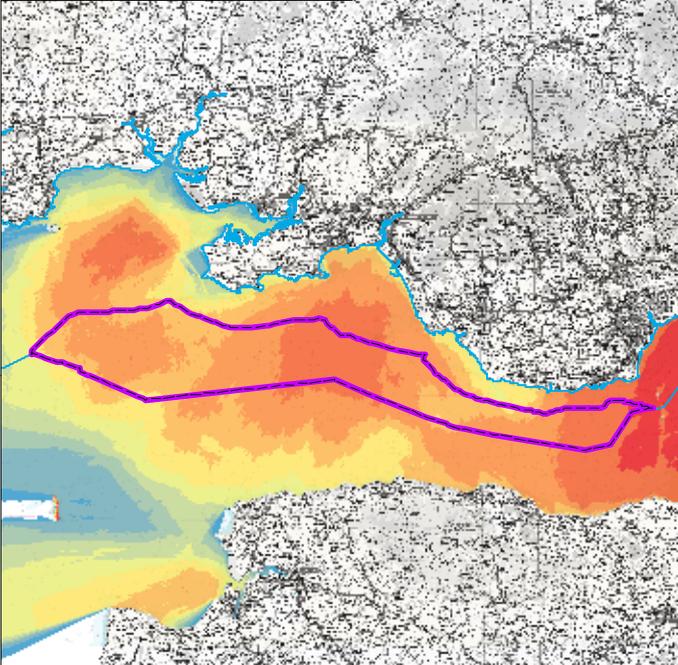
0-1 km from High Water Mark



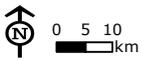
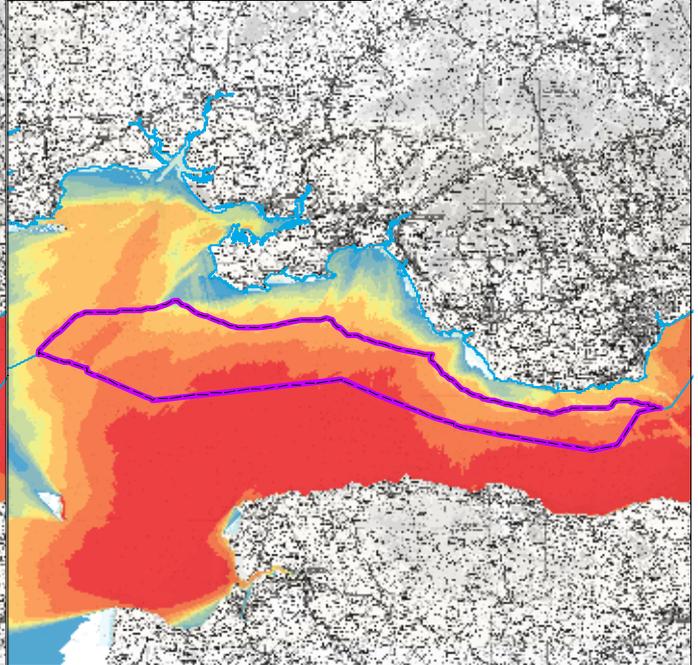
1-5 km from High Water Mark



5-10 km from High Water Mark



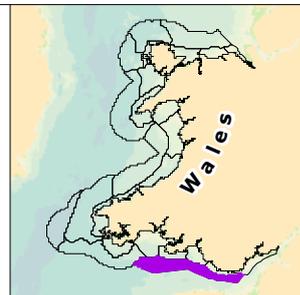
10-20 km from High Water Mark



- 28: Bristol Channel (Wales)
- Wales Inshore Marine Plan Area

Visibility of sea from land (percentile)

<10 (Lowest)	51-60
11-20	61-70
21-30	71-80
31-40	81-90
41-50	91-100 (Highest)



Wales National Seascape Assessment

Relative Visibility of the Sea Surface from Viewers on Land
MCA 28: Bristol Channel (Wales)



Map Scale @ A4: 1:1,370,000

CB: EB:Goosen_V LUC/LON 6262-00_022_VRM_Maps_DDP_Sea_Visibility_ 27/05/2015
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