

Location and boundaries

This Marine Character Area (MCA) comprises the broad arc of Swansea Bay from The Mumbles in the west to Newton Point, east of Porthcawl, to the east.

- The western boundary takes in full extent of Mumbles Head, Mumbles Hill and the lookout point on Tutt Head, as well as the Mixon Shoal located slightly offshore.
- Offshore boundaries are informed by bedrock geology – the mudstone/sandstones of the bay itself, and protrusions of limestone extending from Merthyr Mawr (MCA 27).
- The sandbanks and related navigation marks (cardinal buoys South Scar, West Scar and Ledge) at the southern/SE entry to the Bay are also included.
- Smooth offshore boundary line broadly coinciding with depths of around 17-20m bathymetry.
- Fairy Rocks in east are also included – a feature of the eastern passage into the Bay.

Key Characteristics

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Large south and south-easterly facing bay backed by a developed coastal plain with pockets of sparsely settled coastline, backed in part by steeply rising hills inland.
Shallow waters of the inner bay of less than 10m bathymetry; depths reach a maximum of 20m in the outer bay.
The dramatic Mumbles Head , formed of two limestone islands with lighthouse and pier, forms a distinctive western gateway into Swansea Bay.
Varied coastline between development , including estuaries (of the rivers Tawe, Neath, Afan and Cynffig), sandy bays, dunes and low limestone cliffs and pavements.
Kenfig Dunes are one of the largest sand dune systems in Wales , internationally important for their coastal habitats, birdlife and preserved archaeology found beneath the dunes.
Seabed of Devonian and Carboniferous sandstones and mudstones , overlain by Holocene deposits of sand, gravel and mud - dredged to maintain port access.
Sand bars, banks and submerged rocks forming dangers to navigation , marked by a number of buoys and fog signals as well as the 18 th century Mumbles Lighthouse.
Carboniferous limestone reefs and rocks (including Fairy Rocks) extending offshore from the Porthcawl coastline, with associated turbulence and shallow water.
The bay has long provided safe refuge from heavy weather , although the seas can still be very steep in south or south-westerly storms.
A higher wave climate is associated with the outer parts of the MCA , where the shelter provided by the land diminishes. The area around Scarweather Sands is a licenced Wind Farm Area.
Varied marine life supporting a range of commercial fishing activities including trawling, set netting, rod and line fishing, whelk potting and mussel seed harvesting.
MCA has historic associations with both fishing and native oyster catching , a concentration of intertidal fishing traps dating from the medieval period are found in the intertidal zone.
Origins as a Viking trading post, Swansea expanded significantly in the 17th to 19th centuries , its position allowing international maritime trade in a wide range of products – most notably locally produced coal and copper (termed "Copperopolis").
Concentration of wrecks in the bay , a number torpedoed or mined during WWII.
Swansea was the birthplace of poet Dylan Thomas – the famous link marked by the Dylan Thomas Centre and an imposing statue in the Maritime Quarter.
A busy seascape, with major port-related development and the Port Talbot steelworks forming strange geometric apparatus; chimneys and smoke plumes dominating the landward skyline.
A popular area for sailing, boating, watersports and recreational angling. Much of the shoreline is traced by the Wales Coast Path.

Natural Influences

This Marine Character Area (MCA) comprises the south and south-west facing, large-scale sweeping arc of Swansea Bay. The western edge of the bay is framed by the dramatic Mumbles Head, formed of two limestone islands with lighthouse, pier and lifeboat slip, creating a distinctive western gateway into Swansea Bay and eastern gateway into the Gower Area of Outstanding Natural Beauty (AONB) to the west. The faults and folds displayed in the cliffs above Bracelet Bay are nationally important for furthering an understanding of the Carboniferous mountain-building phase. The associated shallow warm water sediments, with fossil sponges, corals and brachiopods, also allow geologists to understand the conditions present in South Wales at that time. At the opposite eastern side of the MCA, the limestone bedrock geology is also exposed in rocky cliffs and limestone pavements punctuating small sandy bays.

Between the outer limestone sections and extensive industrial and urban development, the bay is backed by a variety of low-lying intertidal, estuarine and coastal habitats. In the west, Blackpill SSSI and Important Bird Area (IBA) supports internationally important populations of ringed plover and sanderling, as well as a range of other overwintering and passage wader populations. This site forms part of a regional complex of wetland and estuary habitats including the Gwendraeth, Burry and Severn Estuaries. The central coastline includes Crymlyn Burrows SSSI, which along with Kenfig Burrows to the east of the bay and Merthyr Mawr (MCA 27), represents a wider system of ancient sand dunes found across the area, much of which now lies beneath development. Formed from glacial sand deposited in the Irish Sea when the ice sheets melted at the end of the last Ice Age, the dunes are continually fed and modified by the strong tidal and weather systems associated with the Bristol Channel.



View across Kenfig Dunes and Pool towards Port Talbot steelworks

Kenfig Dunes SAC, SSSI, NNR and LNR comprises one of the largest sand dune systems in Wales – the dunes, dune slack, scrub, woodland and freshwater pool creating internationally important habitats for birds. This coastline is also known for the remains of ancient tree stumps exposed periodically on the beaches, representing a forest which

developed on the coastal plain and was then submerged by rising sea levels after the last ice-sheet glaciation.

The bay is defined by its shallow waters with its overall physical character changing markedly according to the tides – a wide intertidal zone of mudflats is exposed at low tide in the west, and maximum depths in the inner bay are of less than 10 metres. Devonian and Carboniferous sandstones and mudstones are overlain by thick Holocene deposits of sand, gravel and mud – dredged to maintain port access into Swansea, the River Neath (Briton Ferry) and Port Talbot. The seabed gradually deepens to a maximum of 20 metres in its outer extent, but this varies due to the presence of significant sand bars, banks and submerged rocks. Scarweather Sands, Hugo Bank and Kenfig Patches guard the south-eastern entrance to the bay, their associated shoals, changing depths, overfalls and unpredictable eddies creating challenges to navigation. Mixon Shoal lies off Mumbles Head – a small bank which dries to less than a metre, its presence indicated by a red can buoy with bell beneath the Mumbles lighthouse. Submerged limestone pavements and reefs extending from the Porthcawl coastline are further hidden dangers to vessels, outcropping at Fairy Rock to the south of Sandy and Trecco bays. The varied sand and rocky sediments of the seafloor, as well as the sheltered, warm conditions arising from the bay's topography and southerly aspect, support a rich marine life.

Despite the influence of the tides and presence of underwater hazards, the bay has long provided safe refuge and anchorage (e.g. at Mumbles Road in the lee of Mumbles Head), although the seas can still be very steep in south or south-westerly storms. A higher wave climate is associated with the outer parts of the MCA where the shelter provided by the surrounding land diminishes, and the influence of the Bristol Channel (and associated Atlantic weather conditions), strengthens.

Cultural/social influences

Dominating the bay with a strong maritime heritage, Swansea's origins can be traced to the Viking period, when it developed as a strategic trading post due to its close accessibility to/from the Bristol Channel and therefore the rest of Europe – and the world. Its role as a maritime trading hub expanded significantly as the Industrial Revolution took hold in the 17th to 19th centuries. At this time a range of products passed to and from the port – most notably locally produced coal and copper, earning the city its then nickname, 'Copperopolis'. To supply the works, three-masted sailing ships known as Barques embarked on long arduous voyages around South America via Cape Horn to Chile and south to South Africa, bringing back the copper ore for processing in works in the lower Swansea Valley, a journey often taking more than a year. Men who survived the journey gained the accolade of '*Swansea Cape Horners*'. Today, the port's King's Dock and Queen's Dock handle around 600,000 tonnes of cargo, including aggregates, minerals and ores, forest products and steel.

Further down the coast lies Port Talbot, established in the late 19th century to challenge the dominance of Swansea and Cardiff ports. The new port capitalised on the local production and export of coal, peaking at over three million tonnes in 1927. The original port was upgraded to a deep-water Tidal Harbour in 1970, serving the major steelworks developed in the 1950s (still one of the largest in Europe), as well as BP's chemical plant at Baglan Bay (now a power station and business park). Recognised as a nationally strategic deep-water port, Port Talbot now handles around nine million tonnes of cargo, specialising in the imports of coking coal, minerals and ores as well as a wide variety of general materials. A number of outfall pipes, diffusers and dumping grounds relating to the surrounding industry and urban development are submerged beneath the bay.

As testament to the busy waters for shipping over the centuries, a number of ship wrecks are found in the bay, with a particular concentration of small wooden ships within a

'graveyard' in the intertidal zone just north of the Mumbles. A number of vessels were torpedoed or mined during WWII, including the *Fort Medine* – a British 'Standard' steamship built under the emergency shipping building programme at the end of Great War and lost in 1941. Another loss during this time was the Norwegian steamship *Strombus* – on course from Swansea to the Antarctic with a cargo of coal – hit in 1940 by a German-laid mine. The remains of Grade II Listed anti-aircraft battery gun emplacements on Mumbles Head, guarding entry into the bay, are visible on the prominent headland.

Standing in stark contrast to the large-scale industrial activity at Port Talbot are the expansive Kenfig dunes immediately to the south – designated as a Landscape of Outstanding Historic Interest owing to the rich historic and archaeological evidence preserved within the dunes. This includes the be-sanded Norman-era castle and fortified borough of Kenfig – buried beneath the sand following dramatic climatic changes in the Middle Ages (known as the 'Little Ice Age'). Other archaeological finds from the prehistoric, Roman and Dark Age periods suggest the site was favoured for settlement from an early date, capitalising upon its strategic location on the banks of a broad estuary (which has since moved course). The buried remains of Kenfig have been described as the 'Pompeii of Britain' reflecting their well-preserved nature, the ancient town and castle are also both Scheduled Monuments.

The bay's varied marine life supports a range of commercial and recreational fishing activities including trawling, set netting, rod and line fishing, whelk potting and mussel seed harvesting. Swansea is known as a long-standing hub for fishing charter trips, including to the waters surrounding Gower (MCA 25), and Mumbles Pier has dedicated fishing platforms which are particularly popular. Evidence for the long-term exploitation of bay's varied fish stocks includes the historic remains of intertidal fish traps ('stake nets'), some dating from the mid-17th century, with particularly large concentrations associated with the mudflats in the west of the bay. At this time the bay was renowned for the largest stake-nets in Glamorgan, referred to locally as 'stop nets' or 'kettle nets'. Some sites were worked up until the 1930s. The MCA also has historic associations with native oyster catching, reflected in the name of the 12th Century Oystermouth Castle, a nationally important Norman castle perched on Mumbles Hill with wide vistas across the bay. Oyster beds were located at Green Grounds, Outer Green Grounds, White Oyster Ledge and off Mumbles Head, but overfishing in the 19th century means few beds now remain.

Today the bay remains a hive of activity, with a range of recreational uses combining with the commercial and industrial activities related to the developed coast. Fast ferries to Cork (Ireland) depart from Swansea Ferryport, and other local cruise companies operate recreational excursions, including weekend trips across the Bristol Channel to Ilfracombe (Devon) and Watchet (Somerset). Swansea Yacht Haven provides modern marina facilities for 400 pontoon berths on the west bank of the River Tawe, with tidal water levels controlled by a barrage system. Mumbles Yacht Club and the Bristol Channel Yacht Club base themselves within the bay, with summer moorings under the shelter of the Mumbles peninsula. As well as sailing, boating and other watersports, the bay offers opportunities for surfing, coasteering and cliff climbing/abseiling, as well as walks along much of the shoreline via the Wales Coast Path. Mumbles Head is a particularly popular tourism draw with its pier, late 18th century Grade II* lighthouse and expansive views across the bay.

Both Port Talbot and Swansea ports include facilities to support future offshore energy developments in the bay, including Swansea Bay Tidal Lagoon and the licensed Round 1 Wind Farm Area near Scarweather Sands – both earmarked to capitalise on the natural energy resources of the bay.

Aesthetic and perceptual qualities

A strong human influence pervades in this MCA, the waters and coastline alive with movement and colour relating to various activities throughout the year. The overall perception of the area as a hub of activity and development contrasts with isolated pockets of relative tranquillity and naturalness, including the wild sand dunes at Kenfig and the exposed headland of The Mumbles – gateway into the Gower AONB. The open waters of the bay itself provide a valuable maritime setting to the settlements of Swansea and Porthcawl; key to their own identities and popularity as visitor destinations.



Mumbles Head Lighthouse

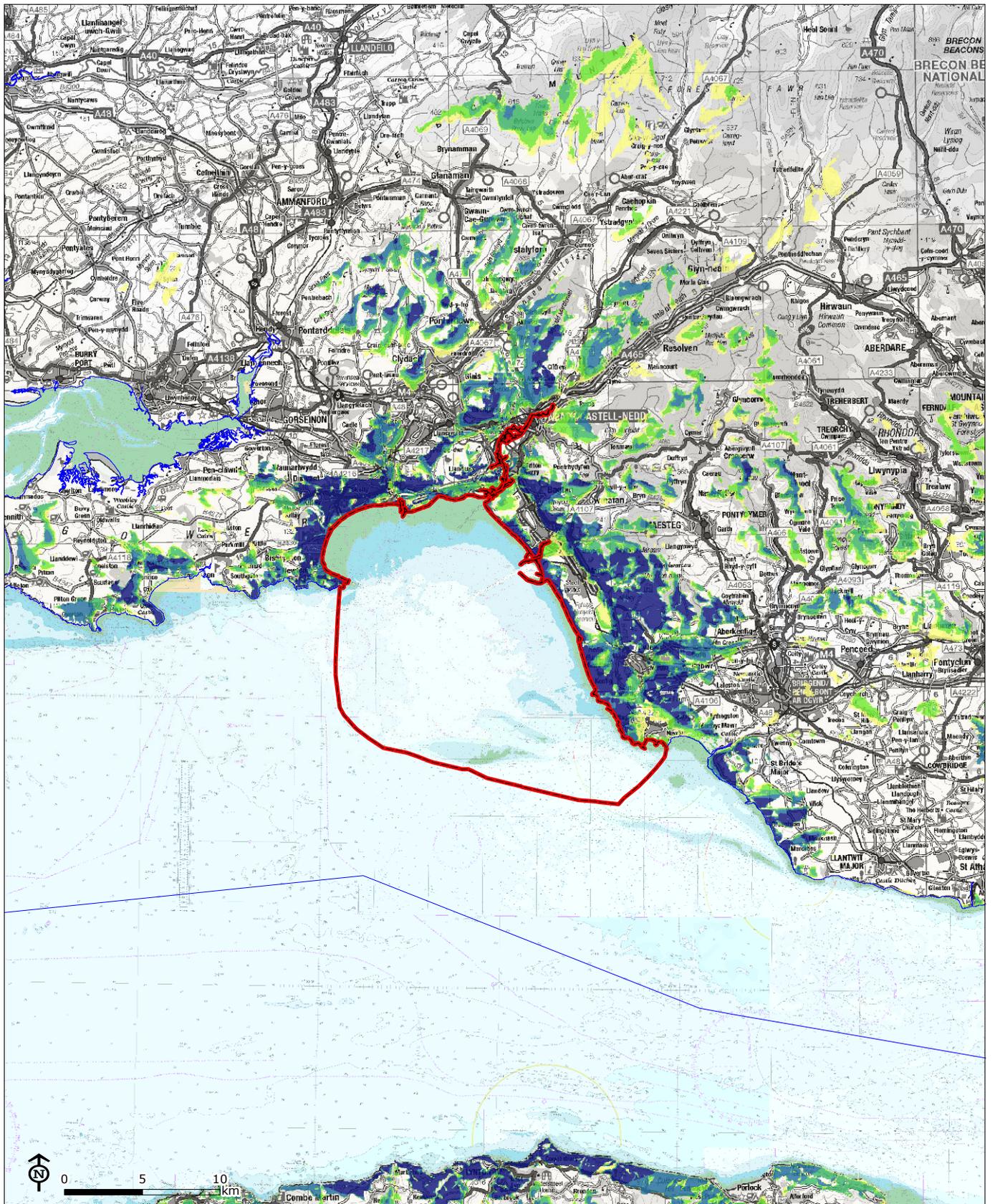
Guiding lights into the ports and harbours form twinkling features of the night-time skyline. The floodlit Oystermouth Castle and symbolic historic lighthouse on Mumbles Head (with its 26 nautical mile range) emphasise the area's rich seafaring heritage upon entry into the bay. Red and white lights and orange flares associated with the Port Talbot steelworks contribute further to seascape character at night. The bay's sweeping character presents a vast sense of scale with expansive views from the sea, including to the rising uplands above the South Wales valleys with the moving blades of wind turbines on hill summits (e.g. Ffynnon Oer windfarm in Neath Port Talbot). The Port Talbot steelworks form strange geometric apparatus; chimneys, flares and smoke plumes dominating the landward skyline (and smells) from long distances, including from the Bristol Channel (MCA 28) and the opposite coastline of Exmoor National Park.

Swansea was the birthplace of poet Dylan Thomas – the famous link marked by an imposing statue in the Maritime harbour and the Dylan Thomas Centre in the Maritime Quarter. Dylan Thomas was born in Cwmdonkin Drive in the Uplands area of Swansea and much of his work was influenced by many of the places in and around Swansea Bay, Mumbles and Gower (MCA 25).

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.



 26: Swansea Bay and Porthcawl
 Wales Inshore Marine Plan Area

Land with sea views (Percentile)



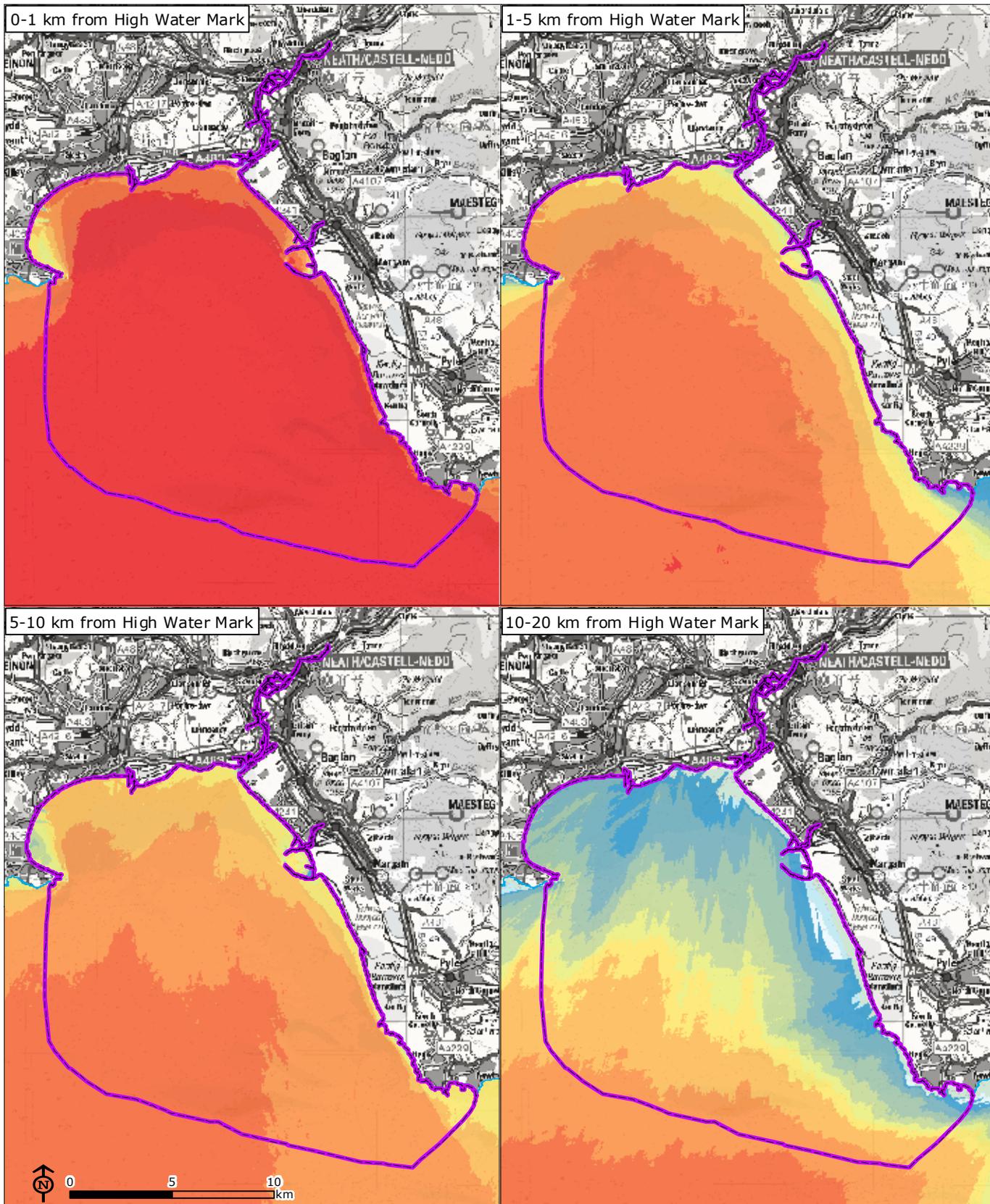
Wales National Seascape Assessment

**Land with Views of:
MCA 26: Swansea Bay and Porthcawl**

Source: LUC, NRW, OceanWise



Map Scale @ A4: 1:350,000



- 26: Swansea Bay and Porthcawl
- 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 26: Swansea Bay and Porthcawl



Map Scale @ A4: 1:270,000

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

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Source: LUC, NRW, OceanWise