

# Rhoscrowther | Wind Farm



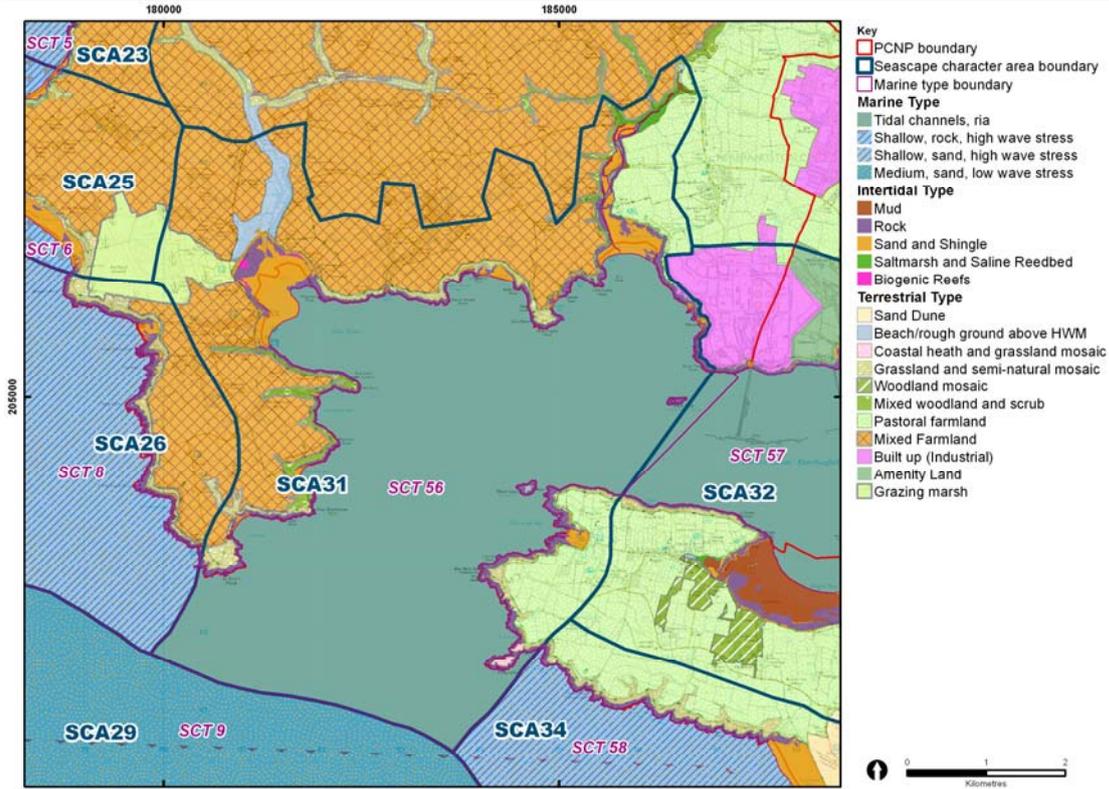
## Environmental Statement

### Volume III: Technical Appendices

#### Appendix 5.4 - Seascape Character Area Data Sheets

October 2021

No: **31** Seascape Character Area Name: **Outer Milford Haven**



Reproduced from Ordnance Survey digital map data © Crown copyright 2013. All rights reserved. Licence number 100019741. Sources: Ordnance Survey, Seazone, Pembrokeshire Coast National Park Authority, CCW, Cadw.

**SCA 31: Outer Milford Haven**



*Panorama looking north over Angle Bay, refinery visible on right*



*Mouth of Milford Sound from near Rat Island, with ferry off St Ann's Head*



*In the mouth of the Sound approx 500m from shore*



Sandyhaven Pill (©John Briggs)



Dale Roads with refinery in distance

### Summary Description

The area forms the outer part of Milford Haven which is a large sheltered drowned ria. The mouth of the Sound has an exposed open sea aspect with strong tides and currents contrasting with the sheltered bay of Dale, small beach at West Angle Bay, and creeks such as Sandyhaven Pill. There is nature conservation interest especially around Dale and coastal forts relating to the Haven's historic strategic value. The sea area is busy with ferry and commercial shipping, with the refinery and other energy and port infrastructure in background views and the area is popular for recreation and sailing, especially around Dale.

### Key Characteristics

- Large sheltered drowned ria with red steep sandstone cliffs and sheltered bays and shallow creeks.
- Mouth of the Haven has an open sea character with strong currents and swell.
- Rolling inland landcover comprises open arable and pasture with low hedgebanks, with deciduous woodland in incised valleys.
- Traditional and medieval settlements.
- Historical military features and associations including forts.
- Busy natural harbour mouth with large vessels including tankers and ferries using the waters.
- Popular for sailing and other recreation especially around Dale.
- The coastal path runs around the entire sea edge.
- Wide and contained views.

### Physical Influences

Milford Haven is a classic example of a ria (coastal inlet formed by drowning of a river valley). The outer zone of the southward opening Haven is incised through east-west striking Silurian (Grey Sandstone Formation), Devonian Old Red Sandstone (Raglan Mudstone Formation, Ridgway Conglomerate Formation) and Carboniferous Limestone. Red cliffs bound the wide mouth to the Haven to both west (St Ann's Head) and east (East Blockhouse Point; Rat Island 23m aod, Sheep Island 36m aod). Fallen rocks fringe the coasts. The western headland is indented by shallow bays, whilst to the east, West Angle Bay is deeply incised. On the north side of the Haven, where the headland is 50-60m aod), the land slopes down to a coast indented by bays, the river valley at Monk Haven, the sinuous sandy estuary at Sandyhaven Pill and the broad estuary at Dale. Intertidal areas are rocky or shingle around the headlands (52%) and sandy in bays (43%). Salt marsh forms locally (4%). Wind and wave erosion are reduced in the estuary mouth. The tidal estuary is a depositional area with sediment transported through traction, saltation and suspension.

The shallow (<30m) sandy sea floor slopes gently (<1°) in the estuary but has a low to moderate

slope (1010o) across the channel mouth (<25m). Areas of rocks form local shallows across the channel. The seas of the Haven are sheltered from wave stress, and are strongly tidal. Tidal currents west of St Ann's Head set northwest and southeast, with tidal flow <3 knots. In the mouth of the Haven tidal currents set northeast southwest, with tidal flow <2 knots. The tidal range is 6.1m.

The landcover is mixed farmland of arable and pasture with low cut hedgebanks and fencing in medium-sized semi-regular fields to the north and west in the Dale peninsula and around St Ishmaels and in small fields including linear burgage plots associated with the village of Angle to the east. Small, steep sided wooded valleys cut through the rolling lowland plateau to the north. North of Dale the bay turns to a large marshy area with retained water.

The waters form part of the Pembrokeshire Marine SAC. The coast to the west forms part of the Dale and South Marloes Coast SSSI, the northern coast, estuaries and wetlands form part of the Milford Haven Waterway SSSI and the south east is part of the Angle Peninsula Coast SSSI. Semi-natural habitats range from sheltered inter-tidal mud flats in the shallow embayment of Angle Bay, to lowland mixed deciduous woodland. Cliff areas comprise a mosaic of rough pasture and scrub, with species including chough and peregrine falcon. The small tributary estuary of Sandy Haven supports several species of birds during the winter. There is a HPM CZ proposed which runs from the shore at Dale [Gann Flats] out east to Watch House Point and south and then west to Dale Point. The important habitats include sheltered muddy gravels and subtidal mixed muddy sediments.

### Cultural influences

Milford Haven is the fourth busiest waterway in the British Isles, with freight tonnage expected to increase in the coming years. Milford Haven is one of the few deep water natural harbours in the British Isles capable of being entered in all weathers and at any stage of the tide. It is the entrance to a classic 'harbour of refuge', home to the Royal Navy and is now an integral part of Britain's oil and gas infrastructure.

The area is an exceptionally rich area in terms of historic seascape character. Medieval burials are confirmed in West Angle Bay. A pair of blockhouses was built by Henry VIII to guard Milford Haven. A chain of forts was later built to defend it from Napoleon III - Thorn island on the south side, South Hook on the north, Stock Rock on a mid-channel rock, and Dale Fort, set within ramparts of an earlier promontory enclosure.

Scheduled monuments include:

- PE307 (promontory fort): community: Herbrandston
- PE334 (fort): community: Herbrandston
- PE411 (promontory fort): community: Angle
- PE554 (cemetery): community: Angle
- PE566 (airfield): community: Marloes and St Brides (partly in SCA25 and SCA26)

Part of this area lies within the Milford Haven Waterway Landscape of Outstanding Historic Interest. Angle is a Conservation Area extending as far as West Angle Bay.

There are over 20 wrecks in the area which is symptomatic of its intensive use. These include military craft such as HMS Leda which lies in West Angle Bay and HMS Caroline and HM MGB12 which lie near the main channel. Some wrecks are in the late 19<sup>th</sup> century while others were sunk in the 1970's.

As with seascape character area 32- Milford Haven was the landing-place of Henry Tudor, Henry VII, who marched from here to defeat and kill Richard III at Bosworth field. In *Cymbeline*, Imogen refers to Milford.

The main settlement in the area is Dale which is focussed on sailing and recreation with the fringes of the rural settlement of St Ishmaels to the north. Elsewhere the settlement is dispersed rural farmsteads and dwellings. The large scale structures of the LNG terminal, refinery and other associated infrastructure lie to the east.

Access to the Haven for large tankers is through a narrow passage, passing beneath the lighthouse on St Ann's Head, although the opposing headlands stand over two kilometres apart at their narrowest point.

Commercial shipping is focussed at the approaches to the busy Milford Haven Waterway - the The Port of Milford is the third largest port in the UK and handles 29% of the UK's seaborne trade in oil and gas. The activity passing through the outer Haven relating to the port's operation activity includes tugs, service and pilot vessels with occasional dredging. A ferry out from Pembroke Dock regularly passes through these waters. Commercial fishing vessels come out from Milford. Recreational motor and yacht cruising activity comes out of two marinas up river as well as the many swinging moorings along the waterway. There is a lighthouse on St Ann's Head at the entrance to the Milford Haven Waterway. There are significant commercial navigational lights, marks and buoys along the approaches as well other marks for recreational navigation.

Sea angling is especially popular with small craft often anchored just off St Ann's Head as well angling from rocks and beaches, especially within Angle Bay. Kayaking, rowing and windsurfing are to be found all round this area of coast. Dinghy and yacht sailing activity, including racing, takes place throughout the year. There is a heavily used cruising route from here around the coast west to Fishguard, across the Bristol Channel and to points east such as Tenby. There are also numerous routes across to Ireland. Dale Roads offers several swinging mooring with a pontoon and slipway at the village behind. There is a sailing and surfing school with attendant students out in the bay. Windsurfing is popular off Dale and Angle. There is a slipway at West Angle. Wildlife boat trips come out from Dale or pass through these waters en route for the Islands. Beach activities take place in the secluded bays of Watwick, Dale and Sandy Haven and at West Angle Bay across the water to the south, sheltered from southerly winds..

Dale Fort Field Centre lies on a headland and is used for coastal scientific research and field studies. At the Gann in Dale are mudflats and a lagoon popular for wildlife spotting. There is a prominent island - Thorn Island - just off Angle and a Martello Tower to the north.

Fishing in the area comprises of hand gathered cockles and razor clams, beach seining and beach nets, set nets in the outer waters around the mouth, lobster and crab potting and light otter trawling.

The area has a Round 24 licence for oil and gas.

#### **Aesthetic, perceptual and experiential qualities**

There is a contrast in scale and exposure between the open and exposed sea corridor at the mouth of the Haven with more contained and sheltered bays, with their channelled views. West Angle and Dale bays feel very sheltered and safe. On boast in the mouth of the Haven there can be a large swell and currents , especially to the west, which contrast with the relative calm of the harbour.

The rough and rugged textures of red sandstone cliff edges, contrast with the open rolling arable and pastoral plateau and gentle rolling hills.

At low tide, the exposed alluvial and stony beach at Dale stretches far out, with strong seaweed smells. Dale has colourful painted houses, and is busy especially in summer with boats and holiday activity. This contrasts with the more recessive parts of the area. There is a strong sense of place at Dale village, and at the old forts in varying condition.

Views vary from open framed views out to sea past the headlands of St Ann's and Rat Island, with lighthouse and masts breaking the skyline, to areas such as Dale where contained views are set against distant view of refineries. Sometimes ships, including ferries, will provide a seaborne focus.

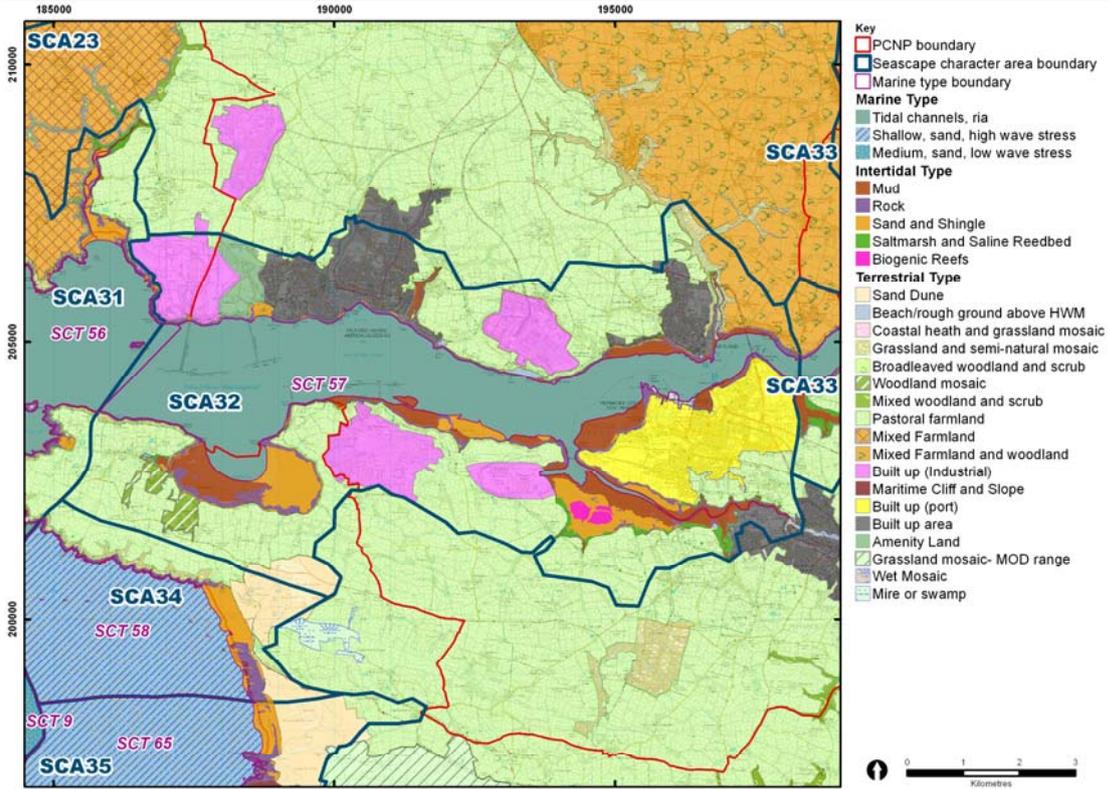
There is a strong contrast between this essentially rural, natural and tranquil area with the Inner harbours dominated by large scale energy and port facilities, settlement and associated lighting which forms a significant backdrop to many views.

#### **Cultural benefits and services**

The area contributes significantly towards leisure and recreational services in the form of marine recreation and beaches, to natural heritage in the form of the rugged cliffs and bays, creeks and marshes. The cultural associations are very strong with the old villages and field patterns and association with military history and naval shipping, and the area continues to be an important focus of energy-related industry and commercial shipping activity.

Forces for change								
Summary	Key forces for change							
<p>The estuary is a sediment sink. The shoreline management plan generally states 'do nothing'. At Dale, the SMP is to 'hold the line' to protect village assets.</p> <p>Coastal erosion is causing scheduled monuments to fall into the sea eg East Blockhouse.</p> <p>The level of activity in the waters will increase as Milford Port increases traffic, especially in LNG.</p> <p>The Gann is one of the potential HPM CZ's which, if implemented, will significantly affect levels of permitted activity at Dale which is popular for sailing and recreation.</p> <p>Visitor pressure on recreational hotspots including Dale.</p> <p>Development pressure for holiday accommodation.</p> <p>Impact of industry and shipping on ecology and tranquillity.</p> <p>Possible intensification of arable farming for potatoes for example, leading to potential loss of habitat such as hedgerows.</p>	<b>Special Qualities</b>	Natural processes/ climate change	Visitor pressure	Marine use- commercial and fishing	Offshore energy or minerals	Development pressure	Land management changes	MOD use
	Coastal Splendour							
	Islands							
	Diversity of Landscape							
	Remoteness, Tranquillity and Wilderness							
	Diverse Geology							
	Richness of Habitats and Biodiversity							
	Rich Archaeology							
	Distinctive Settlement Character							
	Cultural Heritage							
	Accessing the Park							
	Space to Breathe							
	<b>Key</b>	Change occurring in the area affecting the selected special quality						
Key sensitivities								
Factors contributing to sensitivity				Factors detracting from sensitivity				
<p>Remote, unspoilt cliffs and sheltered bays and estuaries.</p> <p>Popular recreational destinations such as Dale.</p> <p>Nature conservation interest especially around Dale.</p> <p>Richness of military and nautical history.</p> <p>Pembrokeshire Coast Path as a sensitive receptor.</p>				<p>Commercial shipping and adjacent refinery and other industrial and urban land uses.</p> <p>Presence of established recreational activity.</p> <p>Contained ria enclosed by surrounding hills and plateau.</p> <p>Lighting associated with settlement, shipping and industry.</p>				

No: 32 Seascape Character Area Name: Inner Milford Haven



Reproduced from Ordnance Survey digital map data © Crown copyright 2013. All rights reserved. Licence number 100019741. Sources: Ordnance Survey, Seazone, Pembrokeshire Coast National Park Authority, CCW, Cadw.

SCA 32: Inner Milford Haven



Overlooking the inner Haven from near the Cleddau Bridge



Main channel with jetties in use

Summary Description
<p>This deep water ria acts as a commercial and ferry shipping channel and sheltered harbour, serving oil refinery, gas and oil storage, power station and related industrial and urban settlement with tall structures rising up above the surrounding slopes. This contrasts with indented bays and silted inlets with nature conservation interest and recreational uses, and farmed hinterland.</p>
Key Characteristics
<ul style="list-style-type: none"> <li>• A large sheltered natural harbour of a ria with mudflats and sandy inlets, creeks and bays</li> <li>• Busy commercial shipping channel with tanker terminals, ferry terminal and marinas</li> <li>• Visually dominant refineries with gas/oil storage and power station</li> <li>• Gently sloping enclosing hills with pastoral landcover with arable</li> <li>• Historically rich area associated with the sea with the main urban settlements of Milford Haven and Pembroke Dock and historic small villages</li> <li>• Deciduous woodland on some sea edges, along creeks and minor valleys</li> <li>• Long views down the main channel and framed views from inlets and bays</li> </ul>
Physical Influences
<p>The east-west stretch of Milford Haven is controlled by the deep seated Ritec Fault, and is incised into east-west striking Devonian Old Red Sandstone (Coshleston Group, Raglan Mudstone Formation, Ridgway Conglomerate Formation) and locally Carboniferous Limestone. The channel has deeply indented bays of incised river valleys on both sides (Angle Bay, Pennar Gut, Coshleston Pill, Cresswell and Carew rivers, Westfield Pill, Castle Pill, Hubberston Pill, Gelliswick Bay, Sandyhaven Pill). Of intertidal areas, extensive mudflats fringe the estuary along both sides (41%), and there are sandy embayments (29%), as well as areas of low energy rocky shores (23%). The tidal estuary is a depositional sediment sink, with sediment transported through traction, suspension and saltation.</p> <p>The sandy channel floor slopes moderately (1-10°) into the shipping channel (&lt;25m), which has areas of dredging. The muddy sand to sand shallows slope only gently (&lt;1°).into the channel. The waters are sheltered from wave stress and are strongly tidal. Tidal range is upto 6.3m.</p> <p>Surrounding hills rising to 70m AOD at Green Hill to south, and 67m at Waterston to north. The coastal plateau slopes down to the haven, steeply in places, with a variety of low cliffs, rocky or soft shores.</p> <p>Semi-natural vegetation forms a narrow strip along the shore, sometimes with deciduous woodland in more sheltered areas and steeper hillsides or narrow valleys, and silted or marshy inlets and inter-tidal mud flats in the shallow embayment of Angle Bay, and heavily silted Pembroke River, both important over-wintering grounds for waders and wildfowl. The whole of the haven is part of the Pembrokeshire Marine SAC.</p>
Cultural influences
<p>A great water-way, with historic links to the Atlantic, to Ireland and to other parts of the world- latterly and most evidently through the development of defensive systems, to the naval presence, to Brunel's choice of Milford as the terminus of the South Wales railway and the oil industry.</p> <p>An exceptionally dense historic seascape. The Norman period is represented by the planned village and fields at Angle. Later defensive structures reflect the establishment of Naval ship-building, at Neyland c. 1760 and at Milford Haven in 1796, relocated to Pembroke Dock in 1812. This became one of the most important naval ship-building centres in Britain. Facilities were substantially extended in 1830-32 and again in 1844. These reflect changes in sea-going vessel design. Decline set in after the introduction of the Dreadnoughts and the dockyards finally closed in 1926. The industrial settlement at Pembroke Dock was laid out from c. 1818.</p>

Brunel's Great Western Railway initially sponsored (1845) and eventually assumed control of (1852), the South Wales Railway, which originally intended to reach Fishguard, to tap the Atlantic and Irish traffic, but made Milford Haven its terminus; trains connected with the Atlantic steamships.

There are a number of wrecks in the waterway, two of which are aircraft. Some are dangerous to shipping.

In 1957 work began on the Herbranston refinery; oil supplies reflected shifts in global politics, such as the nationalisation of the Suez canal, which required larger tankers to make the journey around the tip of Africa viable.

Scheduled monuments include:

PE005 (Pembroke castle): community: Pembroke  
 PE068 (tower): community: Angle  
 PE069 (Angle castle - building, unclassified): community: Angle  
 PE186 (rath): community: Milford Haven  
 PE262 (enclosure): community: Hundleton  
 PE263 (manor): community: Hundleton (also partly in SCA 33)  
 PE332 (tower): community: Pembroke Dock  
 PE337 (fort): community: Herbranston  
 PE338 (fort): community: Milford Haven  
 PE379 (barracks): community: Pembroke Dock  
 PE380 (tower): community: Pembroke Dock  
 PE387 (observatory): community: Milford Haven  
 PE400 (enclosure): community: Hundleton  
 PE415 (dovecote): community: Pembroke  
 PE435 (cave): community: Pembroke  
 PE452 (battery): community: Neyland

This area lies within the St David's Peninsula and Ramsey Island Landscape of Outstanding Historic Interest.

Milford Haven was the landing-place of Henry Tudor, Henry VII, who marched from here to defeat and kill Richard III at Bosworth field. In *Cymbeline*, Imogen refers to Milford.

Passenger ferries run from Pembroke Dock to Ireland [Rosslare] and oil and gas tankers use the extensive large scale deep water port facilities with large jetty structures/terminals by the navigable channel. There is a coastguard station based on the haven.

The Port of Milford is the third largest port in the UK and handles 29% of the UK's seaborne trade in oil and gas. There is port operational activity including tugs, service and pilot vessels with occasional dredging. The tall refinery chimneys and structures are vertical elements and with the recently built power station stacks (75m high) are visible from long distances. These are added to by onshore wind turbines and LNG and other storage tanks situated at around 50m AOD are visible on skyline. Lighting [such as on the chimneys] is focused on Milford Haven with a degree of intensity between along transport corridors.

There are marinas at Milford marina and Neyland Yacht Haven. There is a heavily used cruising route from here around the coast west to Fishguard, across the Bristol Channel and to points east such as Tenby. There are also numerous routes across to Ireland. Angle Bay is a popular anchorage although safe anchorage. There is a slipway at Angle Point. There is a lifeboat station at Angle.

Fishing in the area comprises of hand gathered cockles and mussels and periwinkles on southern shores, beach seining and beach nets, set nets and limited areas of lobster and crab potting.

#### Aesthetic, perceptual and experiential qualities

This is a medium scale seascape dominated by the linear form of the main channel and industrial plant and tall chimneys. This main channel is rough textured due to man-made

elements imposed on form of the natural landscape, and these highly prominent structures are only tempered by the natural form and scale of the wide ria and surrounding green hills.

The intensity of commercial shipping and scale of tankers and jetties creates an uncomfortable experience for the small boat user in the main channel.

Contrasting with the main channel, Angle Bay is a semi enclosed bay which dries, with a containing woodland belt and adjacent historic village and church, creating a much more tranquil location with a high degree of naturalness despite longer views to refineries.

The narrow pills are highly contained and natural with wooded valley sides and marshy edges, within which one can feel highly remote despite the closeness of the urban context.

#### Cultural benefits and services

The area contributes significantly towards leisure and recreational services in the form of marine facilities and urban centres, to natural heritage in the form of the scale and character of the Sound and bays and inlets, and to cultural and spiritual services in respect of the richness of historical and current uses relating to shipping, energy and military purposes.

Forces for change								
Summary	Key forces for change							
	Special Qualities	Natural processes/ climate change	Visitor pressure	Marine use- commercial and fishing	Offshore energy or minerals	Development pressure	Land management changes	MOD use
<p>The estuary is a dynamic sediment environment and will evolve with time. The Shoreline management plan states 'do nothing' along the southern coast except Angle Bay where it advises 'hold the line' to protect village assets which otherwise may be subject to landward migration of foreshore. Possible retreat of the line at Pembroke River and changes to silted areas. SMP advises 'hold the line' on the northern coast.</p> <p>Potential expansion of energy related facilities and infrastructure related to port use.</p> <p>Wind energy onshore creating clutter with existing vertical elements.</p> <p>Potential impact of industrial plant on ecology of waterway, especially on water temperatures and pollution.</p> <p>Pollution threat by tankers.</p> <p>Continuity of use of ferry terminal.</p> <p>Demand for more marina space or moorings for recreational boats.</p>	Coastal Splendour							
	Islands							
	Diversity of Landscape							
	Remoteness, Tranquillity and Wilderness							
	Diverse Geology							
	Richness of Habitats and Biodiversity							
	Rich Archaeology							
	Distinctive Settlement Character							
	Cultural Heritage							
	Accessing the Park							
	Space to Breathe							
	Key		Change occurring in the area affecting the selected special quality					

Key sensitivities	
Factors which contribute to sensitivity	Factors which detract from sensitivity
<p>Historic character of older urban settlements and villages, historical features and key views such as to and from Pembroke Castle.</p> <p>Use by recreational boats who can be sensitive receptors.</p> <p>Close association with Daugleddau river system, of nature conservation and recreational importance.</p> <p>Nature conservation importance of wetlands and mudflats.</p> <p>Pembrokeshire Coast Path as a sensitive receptor.</p> <p>Large numbers of urban receptors and passing traffic for example on Cleddau Bridge.</p>	<p>Existing impacts of towers, wind turbines, tanks and associated industrial features may appear to justify further development.</p> <p>Urban centres close to and visible from the water.</p> <p>Limited tranquillity except in sheltered bays.</p> <p>Main roads such as A477 further reducing tranquillity.</p> <p>Presence of established recreational use of waterways.</p> <p>Use by recreational motor boats.</p>