

**CYNGOR CEFN GWLAD CYMRU  
COUNTRYSIDE COUNCIL FOR WALES**

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

**PEMBROKESHIRE**

**ARFORDIR PENRHYN ANGLE/  
ANGLE PENINSULA COAST**

**Date of notification** 2003

**National Grid Reference:** SM 851038 - SM 877006

**O.S. Maps:** 1:50,000 Sheet number: 157  
1:10,000 Sheet number: SM 80 SW

**Site Area:** 133.5 ha (approx)

**Description:**

Arfordir Penrhyn Angle/Angle Peninsula Coast is of special interest for its geology, its wide range of intertidal rock, sand, and gravel habitats and communities, particularly rockpools, caves, tide-swept and under-boulder communities, and for its population of roosting and feeding cough. The site is located at the western extremity of southern Pembrokeshire, extending south from the mouth of the Milford Haven Waterway. It encompasses Thorn Island and the coastline around the Angle Peninsula to the sandy beach at Freshwater West. The small village of Angle lies adjacent to the site, approximately four miles from the town of Milford Haven. West Angle Bay is underlain by Carboniferous Limestone, exposed in cliffs and an extensive wave-cut platform adjacent to a sandy beach. There is a thick cover of Quaternary deposits (mostly clays and stony clays) behind and just to the north of the beach. Rocks of Old Red Sandstone type (mudstones, siltstones, sandstones and conglomerates) are present in the cliffs to the north and south of the bay.

**GEOLOGY:**

**Quaternary of Wales (West Angle Bay)**

West Angle Bay is an extremely important and controversial site with significant implications for the glacial and interglacial chronology of Wales. Cliff exposures at the head of the main bay extend for over 100 metres and display a range of glacial, interglacial and periglacial deposits which have been interpreted in a number of different ways. The nature and origin of these sediments and the chronology of events that they represent have yet to be established with any certainty. West Angle is potentially one of the most important Pleistocene sites in Wales.

**Non-Marine Devonian (West Angle Bay (North):**

The site exposes a section from the Ridgeway Conglomerate Formation, through the Skrinkle Sandstone Group, into the Lower Limestone Shale Formation of the Lower Carboniferous. This section through the Skrinkle Sandstone shows the transition from non-marine river sediments (conglomerates and red shales) via several marginal marine (beach barrier and lagoon) sequences into the fully marine shelf shales of the Lower Carboniferous. The section is a key one for understanding the environments of the Skrinkle Sandstone, and is important

for linking the Old Red Sandstone lithostratigraphy to a biostratigraphical scheme based on spores and conodonts. The biostratigraphical evidence here shows the slight mismatch between the lithological top of the Old Red Sandstone (top of the Skrinkle Sandstone) and the Devonian-Carboniferous boundary which is lower (within the Skrinkle Sandstone).

## **BIOLOGY:**

The majority of this biologically rich and varied site is backed by high crumbling cliffs, with ridges, slabs of bedrock and rugged pinnacles that extend the width of the shore. These are interspersed by small narrow boulder and cobble beaches with one popular sandy beach known as West Angle Bay to the north.

The majority of the lower shore throughout the site is characterised by oar weed *Laminaria digitata* and dabberlocks *Alaria esculenta*, overlying encrusting coralline and filamentous red seaweeds, including *Gigartina pistillata*, a nationally scarce red seaweed. To the north of the site, at the entrance to the Milford Haven Waterway, increased exposure to tidal flow results in an increased richness of animal species. Further up the shore many of the lower shore rocks are dominated by serrated wrack *Fucus serratus*, turf-forming red algae such as pepper dulse *Osmundea pinnatifida* and *Mastocarpus stellatus* and thongweed *Himanthalia elongata*. Areas of bedrock and boulders at the mid-shore level are dominated by an encrustation of barnacles *Chthamalus stellatus*, *C. montagui*, *Semibalanus balanoides*, and limpets with a canopy of bladder wrack *F. vesiculosus* var. *linearis* occurring in places. An intermittent line of pygmy lichen *Lichina pygmaea* occurs amongst the upper limits of the encrustation below a band of black tar lichen *Verrucaria maura*, which is interspersed with patches of laver bread *Porphyra* sp. in areas of increased exposure. The splash zone above supports a band of yellow and grey lichens.

The cliffs and bedrock outcrops contain caves, shaded rocky faces and overhangs that support communities of special interest. These provide a habitat for animal species such as breadcrumb sponge *Halichondria panicea*, lace sponge *Clathrina coriacea*, star sea squirt *Botryllus schlosseri*, piddock *Hiatella arctica*, the sea mat *Electra pilosa*, the mollusc European cowrie *Trivia monacha*, and red seaweeds including *Plumaria elegans*, *Lomentaria articulata* and *Membranoptera alata*.

Some of the most biologically rich rockpool communities to be found on moderately exposed rock, between St David's and the Severn Estuary occur within this site. These are mainly dominated by coralline algae *Corallina officinalis*, along with species such as the brown alga sea oak *Halidrys siliquosa*, carrageen moss *Chondrus crispus*, dulse *Palmaria palmata*, snakelocks anemone *Anemonia viridis* and purple top shell *Gibbula umbilicalis*. Species-rich deep wrack and kelp-dominated pools occur in areas on the lower shore. These host species such as sea oak, dulse, cushion star *Asterina gibbosa* and *A. phylactica*, breadcrumb sponge, common prawn *Palaemon serratus*, and grey top shell *G. cineraria*.

Higher up the cliff, ledges and crevices support several species of interest such as golden samphire, *Inula crithmoides*, rock sea lavender *Limonium procerum* ssp. *procerum*, sea aster *Aster trifolium* and both Portland and woodland spurge *Euphorbia portlandica*, *E.amygdaloides*. Further inland the coastal slopes support maritime grassland dominated by red fescue *Festuca rubra* and cocks-foot *Dactylis glomerata* containing species such as green-winged orchid *Orchis morio*, thrift *Armeria maritima*, buck's-horn plantain *Plantago coronopus*, birds-foot trefoil *Lotus corniculatus*, and sea campion *Silene uniflora*. Western gorse *Ulex galli*, European gorse *U.europaeus* and blackthorn *Prunus spinosa* dominate in areas, along with species such as heather *Calluna vulgaris*, and spring squill *Scilla verna*.

Freshwater flushes along the coastal slopes and cliffs support additional species such as distant sedge *Carex distans* and blunt-flowered rush *Juncus subnodulosus*.

The Angle Peninsula coast supports a small breeding population (usually one to two pairs a year), and roosting areas for a significant proportion of the South Pembrokeshire non-breeding population of chough *Pyrrhocorax pyrrhocorax*. There is regular interchange with chough from the neighbouring Castlemartin Coast and it plays a pivotal role in the movements of chough generally on the Pembrokeshire Coast. A communal roost in the Whitedole/South Studdock area is regularly occupied by up to 15 chough and there are a number of available nest sites along the cliffs, one or two of which are occupied each year. The short, grazed maritime grassland turf, which occurs in places along this stretch of coastline supports invertebrate communities that provides good feeding habitat. Invertebrates of particular interest include the weevils *Trachyphloeus rectus* and *Trichosirocalus dawsoni*.

Feeding peregrine *Falco peregrinus* are regularly seen and have been recorded breeding on this site, along with feeding and over wintering greater and lesser horseshoe bats *Rhinolophus ferrumequinum* and *R. hipposideros*.

### **Remarks:**

The site lies entirely within the Pembrokeshire Coast National Park.

The site is a component part of Pembrokeshire Marine/Sir Benfro Fôrol candidate Special Area of Conservation for its reefs and sea caves, Annex I of the EC Habitats Directive (Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora).

Greater and lesser horseshoe bats are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and on Annex IIa of the Habitats Directive.

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