CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

CARMARTHENSHIRE **ARFORDIR PEN-BRE/PEMBREY COAST**

Date of Notification: 1988, 1989,2002

National Grid Reference: SS 436002 to SN 310042

O.S. Maps: 1:50,000 Sheet number: 159
1:10,000 Sheet number: SN 30 NW, NE, SW, SE
SS 39 NE
SN 40 NW, SW
SS 49 NW

Site Area: 4119.7 ha (approx.)

Description:

This site is of special interest for its intertidal, saltmarsh and sand dune habitats including vegetational transitions, its wet woodland and neutral grassland as well as associated scrub and river and open channel habitats and two rare plants. Nationally important numbers of oystercatchers *Haematopus ostralegus* and sanderlings *Calidris alba* occur as well as an assemblage of invertebrates, including rare species such as the ground beetle *Panagaeus cruxmajor* and the weevil *Datonychus arquatus*, all of which are of special interest.

This extensive site occupies the eastern part of Carmarthen Bay to the south-west of Cydweli (Kidwelly). It includes the 13km long actively growing Cefn Sidan barrier beach, which is linked to the Pennant Sandstone outcrop of the mainland at Pembrey. Behind this beach, extensive sand dunes, up to 30m deep in places, occur. The estuary and salt marshes of the Gwendraeth Fach and Gwendraeth Fawr are in the north of the site. The extremities of the estuary are marked by Salmon Point Scar in the north and Tywyn Point in the south. Sandbanks extend for several kilometres out from Tywyn Point into Carmarthen Bay. Behind Tywyn Point and to the north-west of Cefn Sidan beach lie Tywyn Burrows; Pembrey Burrows and Pembrey Saltings are situated to the south-east of Cefn Sidan.

The intertidal areas provide largest example of exposed sand within south-east Carmarthenshire that is least modified, has the full range of biotopes expected of such a shore type and the habitats and communities show a complete zonation from the upper to lower shores. A specialised rock pool community is also present at Salmon Point Scar.

Rocks at the back of the shores and structures such as wrecks support lichens such as the black tar lichen *Verrucaria maura* and acorn barnacles *Elminius modestus* and *Chthamalus* spp. At Cefn Sidan there is a narrow band of barren, coarse sand at the base of the dunes and, below this, dry sand and decomposing seaweed supports talitrid amphipods. This seaweed and driftwood detritus is the habitat of the ground beetle *Nebria complanata* whose range in Britain is centred on the Bristol Channel and the white pill-bug *Armadillidium album*. Throughout the whole site, sandy upper shores support burrowing amphipods such as *Bathyporeia* sp. and isopods such as *Eurydice*

pulchra. These also occur in the mid-shore together with bristleworms polychaetes such as catworm *Nephyts* spp. and the lugworm *Arenicola marina*. Within the damp, muddy sand of the lower shore at Cefn Sidan, the sand mason worm *Lanice conchilega* is found. These communities of burrowing amphipods, isopods and polychaetes make up over half of the area of the site.

The mudflats support lugworm, ragworm *Hediste diversicolor* and the bivalves peppery furrow shell *Scrobicularia plana*, Baltic tellin *Macoma baltica* and thin tellin *Angulus tenuis*. Sand gaper *Mya arenaria* is found in mud near the creek and channel edges of the Gwendraeth saltmarsh. Edible cockle *Cerastoderma edule* occurs within the muddy sands of, for example, the Gwendraeth estuary, Salmon Point Scar and within the wet areas between the sandbanks to the north-west of Cefn Sidan beach. Sea potato *Echinocardium cordatum* and pod razor shell *Ensis siliqua* are found in the sublittoral muddy fine sand in the central section of Cefn Sidan.

In the region of Salmon Point Scar there are large areas of cobbles that extend down the shore and have been colonised by edible mussels *Mytilus edulis*. Of note here are the rock pools on mixed substrata within the edible mussel beds with the species, keelworms *Pomatoceros* sp., shrimp *Crangon crangon* and edible periwinkle *Littorina littorea* and the seaweeds grass kelp *Enteromorpha* sp., carragheen *Chondrus crispus* and bladder wrack *Fucus vesiculosus*.

The intertidal is also an important migration route and nursery area for migratory fish, including allis shad *Alosa alosa*, twaite shad *Alosa fallax*, sea lamprey *Petromyzon marinus* and river lamprey *Lampetra fluviatilis* which spawn in the freshwater parts of the Afon Tywi SSSI/ candidate Special Area of Conservation, and the rivers Taf and Gwendraeth. All four species, especially twaite shad and river lamprey, use the Three Rivers estuary as a nursery ground before moving out to sea. Shad are also known to spawn in tidal areas.

Pembrey Coast is notable for its wide range of saltmarsh vegetation, both in the Gwendraeth Estuary and at Pembrey Saltings; these vegetation types are further enhanced by the presence of well-developed transitions to dune, dune slack and freshwater habitats. The presence of both grazed and particularly ungrazed saltmarsh further adds to the diversity of this site. Otters *Lutra lutra* are present within the estuaries and saltmarshes.

The Gwendraeth Estuary also supports substantial stands of transitional low saltmarsh vegetation, often dominated by common saltmarsh-grass *Puccinellia maritima* and annual sea-blite *Suaeda maritima*. There are large areas supporting sea aster *Aster tripolium*, with associated species such as glasswort *Salicornia europaea*, common cord-grass *Spartina anglica* and English scurvy grass *Cochlearia anglica*. There are also substantial areas on the more elevated parts of the Gwendraeth with a very distinctive association dominated by sea-purslane *Atriplex portulacoides*. Here it grows with mats of red fescue *Festuca rubra* and frequent sea aster. Saltmarsh dominated by red fescue is frequent in the heavily grazed eastern part of the estuary.

Of special interest on the Gwendraeth is the extensive transitional zone, dominated by sea rush *Juncus maritimus*. Associated species include sea plantain *Plantago maritima*, common sea lavender *Limonium vulgare*, together with more localised plants such as parsley water-dropwort *Oenanthe lachenalii*.

The Gwendraeth saltmarshes, with their distinctive vegetation assemblages, have features in common with Mediterranean saltmarshes. Further interest is provided by the transitions to brackish and freshwater dune slacks with stands of sharp rush *Juncus acutus*, which also emphasises the southern European affinities of these marshes.

Pembrey Saltings is another high-quality site in terms of its saltmarsh and saltmarsh/dune transitions. This includes freshwater reedbeds with common reed *Phragmites australis* and swamps supporting sea club rush *Bolboschoenus maritimus* which grade into sea rush saltmarsh, with areas supporting frequent sea purslane. Also of interest is the saltmarsh to dune transition which includes rock sea-lavender *Limonium binervosum* and long-bracted sedge *Carex extensa*.

The main areas of sand dune vegetation are concentrated at Tywyn Burrows and Pembrey Burrows. These are linked by a narrow ridge of dunes between Cefn Sidan beach and the hinterland of Pembrey Forest. The northern dunes at Tywyn Burrows are much wetter than the rapidly accreting Pembrey Burrows, with much of this latter area and the adjacent saltmarsh having formed in the 20th Century.

At Tywyn Point, there are areas of dune grassland largely comprising a species-poor marram grass *Ammophila arenaria* sward. Seawards, well-developed strandline vegetation, with specialised plants such as frosted orache *Atriplex laciniata*, sea rocket *Cakile maritima* and prickly saltwort *Salsola kali* occurs. Behind the mobile dunes at Tywyn Point are low, sub-parallel dune ridges, much of which have been colonised by grasses such as red fescue and false oat-grass *Arrhenatherum elatius* and other vegetation. Expanding thickets of sea buckthorn *Hippophae rhamnoides* clothe the drier dune areas; whilst dense alder *Alnus glutinosa* and grey willow *Salix cinerea* occur in the wetter depressions. Scrub encroachment has resulted in the degradation of dune slacks that were once the habitat of the rare fen orchid *Liparis loeselii*, which is now presumed to be extinct.

The rare ground beetle *Panagaeus cruxmajor* has been recorded in recent years from a young, rather brackish slack at Tywyn Point and the rare weevil *Datonychus arquatus* occurs in another, more vegetated dune slack at Tywyn Burrows, where it is associated with Gypsywort *Lycopus europeaus*.

The typical vegetation of the slacks includes variegated horsetail *Equisetum variegatum*, glaucous sedge *Carex flacca*, marsh pennywort *Hydrocotyle vulgaris* and, creeping willow *Salix repens*. The latter is possibly becoming overly dominant in places. Noteworthy species that occur in these wet slacks include the rare (Red Data Book) dune gentian *Gentianella uliginosa*, fragrant orchid *Gymnadenia conopsea*, and several species of marsh orchid *Dactylorhiza* spp. The rare liverwort, petalwort *Petalophyllum ralfsii*, occurs on one of the few remaining areas of bare wet sand at Tywyn Burrows.

The wooded areas that have developed at Tywyn Burrows are also of interest; often alder-dominated, these now constitute an important feature of the site. This locality, together with the nearby Laugharne-Pendine Burrows, probably holds the bulk of such dune woodland in southern Britain.

The dunes at Pembrey Burrows are much drier than at Tywyn Burrows, and are without wet slacks. As Pembrey Burrows dune system is relatively new and is one of the few in Wales that is actively growing, strandline habitats and mobile dune grassland areas are frequent, and this site has not suffered the same degree of invasion by sea buckthorn and other coarse vegetation. The accreting areas have much prickly saltwort and sea rocket growing amongst large amounts of strandline material such as driftwood and seaweed. Sea spurge *Euphorbia paralias* and grasses such as sand couch *Elytrigia juncea* occur frequently, whilst extensive swards of kidney vetch *Anthyllis vulneraria* grow on the more established dunes and support colonies of small blue

butterflies *Cupido minimus*. On the narrower northern 'arm' of dunes at Pembrey, the striated catchfly *Silene conica* occurs. This rare species requires areas of bare sand with a little humic content.

Remarks:

The site lies within two candidate Special Areas of Conservation (cSAC). It is part of Carmarthen Bay and Estuaries/Bae Caerfyrddin ac Aberoedd cSAC for the following features: Atlantic salt meadows, estuaries, Salicornia and other annuals colonising mud and sand, mudflats and sandflats not covered by seawater at low tide, sandbanks which are slightly covered by seawater all the time, large shallow inlets and bays, allis shad, twaite shad, sea lamprey, river lamprey and otter. It is part of Carmarthen Bay Dunes/Twyni Bae Caerfyrddin cSAC for its: fixed dunes with herbaceous vegetation ("grey dunes"), dunes with Salix repens ssp. argentea (Salicion arenariae), embryonic shifting dunes, shifting dunes along the shoreline with Ammophila arenaria ("white dunes"), humid dune slacks and petalwort.

The site abuts the proposed Carmarthen Bay Special Protection Area (SPA) and Pembrey Saltings is within the Burry Inlet SPA.

Pembrey Burrows and Saltings is a Local Nature Reserve (LNR) administered by Carmarthenshire County Council.

Pembrey Coast SSSI lies within the 'Taf and Tywi Estuary' Landscape of Outstanding Historic Interest.

The site supports the following Schedule 5 and 8 species (Wildlife and Countryside Act 1981): otter, dune gentian and allis shad.

The site supports the following Annex II species listed in the EC Habitats Directive (Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Wild Flora):
otter, allis shad, twaite shad, sea lamprey and river lamprey.

The site supports the following Red Data Book invertebrate species: the ground beetle *Panagaeus cruxmajor*, the weevil *Datonychus arquatus*, the click beetle *Dichronychus equiseti*, the rove beetles *Omalium rugulipenne* and *Philonthus pullus*, the stiletto flies *Dialineura anilis* and *Thereva fulva*, the horse fly *Haematopota grandis*, the robber fly *Pamponerus germanicus*, the solitary bee *Coelioxys mandibularis* and the tortrix moth *Acleris permutana*.