

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

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

**BRIDGEND
NEATH PORT TALBOT**

CYNFFIG/KENFIG

Date of Notification: 1953, 1983, 2003

National Grid Reference: SS 790820

O.S. Maps: 1:50,000 Sheet number: 170
1:10,000 Sheet number: SS 77 NE 78 SE 88 SW

Site Area: 777.3 ha

Description:

Kenfig is of special interest for its extensive sand dune habitats and standing waters together with a mixture of associated coastal habitats including saltmarsh, intertidal areas, swamp, woodland and scrub. In addition, the site is of special interest for the assemblages of plants, fungi and invertebrates that are associated with the sand dunes and standing waters. The following individual species are also of special interest: petalwort *Petalophyllum ralfsii*, the medicinal leech *Hirudo medicinalis*, the fen orchid *Liparis loeselii*, the shrill carder bee *Bombus sylvarum*, the hairy dragonfly *Brachytron pratense* and a weevil *Pachytychius quinquepunctatus*.

This extensive sand dune system is located on the south-eastern edge of Swansea Bay between Margam and Porthcawl. It is bounded by the Afon Cynffig to the north, with agricultural land and the village of Kenfig to the south and east.

The beach and dunes are composed of periglacial material most of which is derived from the Pennant Sandstone of the Upper Coal Measures. A large tidal range, predominantly onshore winds and low-lying coastal hinterland have permitted the development at Kenfig of a hindshore type dune system which extends inland for over 3 km at its widest point. There is a discontinuous distribution of clay and silt beneath the dune sand, with gravel and peat also occurring in the stratigraphy locally .

The exceptional wetness of the Kenfig dune system is of national significance, and the shallow, gently-domed groundwater table is thought to be mainly rain-fed, but it is possible that groundwater inflow from underlying/neighbouring carbonate aquifers also plays a role. Many of the Kenfig slacks flood to a depth of 0.5 metres or more during a typical winter, their peaty soils remaining wet during all but the driest summers.

Intertidal habitat at Kenfig is characterised by a large sandy beach with rocks to the south. The beach, which forms the coastal fringe of the site, is believed to be eroding at the present time, and the foredune frontage has experienced significant sediment loss in recent years. There is a typical foreshore community of prickly saltwort *Salsola kali*, long-stalked orache *Atriplex longipes*, sea sandwort *Honckenya peploides*, and sea rocket *Cakile maritima*. Embryonic

shifting dunes dominated by sandcouch *Elytrigia juncea* occupy a very small area behind the foreshore but their continued development is restricted by inadequate supplies of new sand from the intertidal zone. Further inland, species such as marram *Ammophila arenaria* and sea-holly *Eryngium maritimum* form a typical foredune community. The nationally rare sea stock *Matthiola sinuata* occasionally occurs in grasslands on the landward slopes of foredunes. The succession from these fore-dunes to tall, white dunes of marram grass is evident along the foreshore. Grassland species colonise these white dunes inland, forming a marram grass/red fescue *Festuca rubra* semi-fixed dune grassland community.

The dune system includes extensive areas of semi-fixed and fixed species-rich dune grassland types. Dune grassland with red fescue *Festuca rubra* and lady's bedstraw *Galium verum* is especially common, but there are also areas of more rank neutral dune grassland with yorkshire-fog *Holcus lanatus*, false oat-grass *Arrhenatherum elatius*, dewberry *Rubus caesius* and burnet rose *Rosa pimpinellifolia*. Leaching of normally calcareous dunes has led to the occurrence of some short-sward acid grassland, particularly near the landward margin of the site. This grassland is characterised by sweet vernal-grass *Anthoxanthum odoratum*, common bent *Agrostis capillaris*, sheep's fescue *Festuca ovina* and sheep's sorrel *Rumex acetosella*. Discrete patches of dune heath with heather *Calluna vulgaris* occur within this grassland.

Kenfig has some of the most important and species-rich dune slack vegetation in the UK, with species composition and stand structure varying with hydrology and age. Creeping willow *Salix repens* is ubiquitous and often abundant on the slack floors, along with other typical slack species such as variegated horsetail *Equisetum variegatum*, marsh pennywort *Hydrocotyle vulgaris*, marsh helleborine *Epipactis palustris*, southern marsh-orchid *Dactylorhiza praetermissa* and early marsh-orchid *D. incarnata*. The rare petalwort *Petalophyllum ralfsii* occurs in the patches of damp, bare sand between the creeping willow, and the fen orchid *Liparis loeselii*, occurs in certain younger dune slack communities.

Areas of scrub are scattered throughout the site, including stands of hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa*. There are also stands of poplar *Populus x.candicans* and *P. tremula* on dry dunes and of birch *Betula spp.* and willow *Salix spp.* in wetter slacks and areas of flushed dune grassland. Mature stands of sea-buckthorn *Hippophae rhamnoides* and birch support a dune woodland flora and provide cover for nesting birds. The overall cover of scrub has increased steadily in the post-war era largely as a result of lack of grazing.

To the northwest of the site, there is a small area of saltmarsh on the floodplain of the Afon Cynffig. This area is dominated by sea rush *Juncus maritimus*, saltmarsh rush *Juncus gerardii*, red fescue and sea club-rush *Bolboschoenus maritimus*. Sand couch *Elytrigia juncea* dominates the transition zone between saltmarsh and dune.

The water chemistry of Kenfig Pool is indicative of a coastal, alkaline lake with a moderate nutrient status. The sandy substrates which characterize the shoreline support significant stands of common reed *Phragmites australis* dominated swamp on the pool's seaward side, while the inland shoreline is cattle grazed and devoid of emergent vegetation. Other common components of the swamp vegetation include grey club-rush *Schoenoplectus lacustris ssp. tabernaemontani*, sea club-rush *Bolboschoenus maritimus*, and branched bur-reed *Sparganium erectum*. Sheltered bays and small clearings within the larger stands contain significant floating leaved stands of amphibious bistort *Persicaria amphibia*. Shining pondweed *Potamogeton lucens* and curled pondweed *P. crispus* are occasional aquatic species here. Common spike-rush *Eleocharis*

palustris, marsh pennywort *Hydrocotyle vulgaris*, and marsh marigold *Caltha palustris* occupy the margins. The open water provides a habitat for many aquatic species which together cover the entire pool bed. The scarce hairlike pondweed *Potamogeton trichoides* is locally dominant, particularly in the north of the lake, while the south end includes abundant rigid hornwort *Ceratophyllum demersum*, fan-leaved water-crowfoot *Ranunculus circinatus*, spiked water-milfoil *Myriophyllum spicatum* and the charophytes rough stonewort *Chara aspera* var. *aspera* (nationally scarce) and smooth stonewort *Nitella flexilis* var. *flexilis*. The shallow open water habitat at the south end of Kenfig Pool supports swards of shoreweed *Littorella uniflora* often growing in association with rough stonewort and the aquatic moss *Fontinalis antipyretica*. Rough stonewort also dominates the substrate off the grazed landward shoreline, to a depth of approximately 1.5 m.

There is an abundant and diverse assemblage of aquatic invertebrates in Kenfig Pool. Caenid mayflies *Caenis luctuosa* can be found in large numbers in silty areas; damselfly larvae have also been recorded. Other aquatic invertebrates present include the bristleworms (*Oligochaetes*), pea mussels *Pisidium* spp., snails *Lymnaea peregra*, leeches, beetles, water bugs and predatory triclads.

Kenfig supports populations of petalwort *Petalophyllum ralfsii* and the largest UK population of the fen orchid *Liparis loeselii*. The site is also important for its assemblage of nationally scarce and nationally rare vascular plants such as sea stock *Matthiola sinuata*, variegated horsetail *Equisetum variegatum*, Portland spurge *Euphorbia portlandica*, hutchinsia *Hornungia petraea*, rock sea-lavender *Limonium procerum*, round-leaved wintergreen *Pyrola rotundifolia*, and dune fescue *Vulpia fasciculata*.

The sand dunes of Kenfig support an assemblage of rare macrofungi. Important species include a nail fungus *Poronia punctata*, an ink-cap fungus *Coprinus ammophilae*, a stalked puffball *Tulostoma brumale* and a milk-cap fungus *Lactarius controversus*.

Kenfig is important for its invertebrate fauna. The sand dunes represent a stronghold for rare invertebrates, such as the weevil *Pachytychius quinquepunctatus* and the shrill carder bee *Bombus sylvarum*. The pool is home to the medicinal leech *Hirudo medicinalis* and the hairy dragonfly *Brachytron pratense*. The site is also important for its assemblage of Red Data Book insects including a solitary wasp *Minumesa littoralis*, a snail-killing fly *Pteromicra pectorosa* a robber fly *Pamponerus germanicus* and the vernal colletes *Colletes cunicularius*.

Remarks:

The majority of the site lies within the Kenfig National Nature Reserve (NNR), which was declared in 1989 and is managed by Bridgend County Borough Council. Part of the site is also a Local Nature Reserve, declared in 1977.

Cynffig/Kenfig SSSI is part of Kenfig/Cynffig Special Area of Conservation, being host to the following habitats listed in Annex I of the EC Habitats Directive: (Directive 92/43/EEC on the Conservation of Natural habitats and of Wild Flora and Fauna).

- 'Fixed dunes with herbaceous vegetation ('grey dunes')
- 'Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*)'
- 'humid dune slacks'

‘Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)’
‘Hard oligo-mesotrophic waters with benthic vegetation of *Chara spp.*’

The site is also host to the following species which are listed in Annex II of the EC Habitats Directive

fen orchid *Liparis loeselii*
petalwort *Petalophyllum ralfsii*

This site is host to the following plant species protected under Schedule 8 of the Wildlife and Countryside Act as substituted by Schedule 9 to the Countryside and Rights of Way Act 2002:

fen orchid *Liparis loeselii*
petalwort *Petalophyllum ralfsii*

This site is host to the following animal species protected under Schedule 5 of the Wildlife and Countryside Act as substituted by Schedule 9 to the Countryside and Rights of Way Act 2000 :

Medicinal leech *Hirudo medicinalis*

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