

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

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

PEMBROKESHIRE

BROOMHILL BURROWS

<u>Date of notification</u>	1954, 1987
<u>National Grid Reference:</u>	SM890004
<u>O.S. Maps:</u>	1: 50 000 Sheet number: 158 1: 25 000 Sheet number: SR 99
<u>Site Area:</u>	201.1 ha

Description:

Cliff and foreshore rock outcrops at the north-western end of this site provide exposures chiefly consisting of mudstones and sandstones of the Devonian Milford Haven Group. The strata were compressed and distorted during the Variscan mountain building episode (orogeny) when the originally horizontal layering (bedding) became tilted to its present altitude. A range of structural features, formed at that time, is very clearly displayed in this section.

Cleavage planes cross-cutting the bedding are particularly well developed, providing an important contrast with similar strata on the eastern side of 'Pembrokeshire', where cleavage is only feebly developed. Other minor structures, such as faults, joints and lineations are well displayed, and have been studied in considerable detail here. This site thus provides valuable exposures demonstrating some important structural characteristics of one of the major zones of the Variscan orogenic belt in 'Pembrokeshire'.

Biological.

One of 'Pembrokeshire's largest dune systems with the most extensive and most diverse dune slack vegetation. Species-rich dune grassland overlying Old Red Sandstone is also especially well represented, along with the more mobile elements of dune vegetation. Numerous notable plants occur, including scarce lichens. Notable insects include several rare beetles, flies, bugs and moths. Vestigial strandline vegetation occurs on the narrow shingle ridge at the top of the wide and extremely exposed sandy shore, with spear-leaved orache *Atriplex prostrata*, frosted orache *A. laciniata*, Babington's orache (*A. glabriuscula*) and sea sandwort *Honkenya peploides*.

The seaward line of dunes that has developed on this shingle ridge reaches 20 metres (66 feet) in height, and is dominated by marram *Ammophila arenaria*. Numerous deep blow-outs break this seaward ridge, which rapidly changes inland to dune grassland with red fescue *Festuca rubra* and common restharrow *Ononis repens*, as well as marram. In more stable areas where there is little marram and grazing by cattle and rabbits occurs, an extremely species-rich grassland has

developed, with much lady's bedstraw *Galium verum* and common birds-foot-trefoil *Lotus corniculatus*. Extensive 'grey' dune with abundant mosses and lichens such as *Cladonia sp* and *Peltigera sp* is an outstanding feature of the upper slopes of the dune system, where sand overlies Old Red Sandstone at altitudes which exceed 60 metres (197 feet) in places. These slopes merge into sea-cliff in the north-west, where spring squill *Scilla verna* is especially frequent in the dune grassland. Extensive scrub of gorse *Ulex europaeus* with some western gorse *U. gallii* and a little bell heather *Erica cinerea* occurs on these cliffs. Salad burnet *Sanguisorba minor*, heath dog-violet *Viola canina*, wild thyme *Thymus drucei*, biting stonecrop *Sedum acre*, squinancywort *Asperula cynanchica* and carline thistle *Carlina vulgaris* are abundant components of the short dune turf in the inland areas.

Dune slack or wet dune hollows are a major feature of this dune system. They support large orchid populations, including early marsh-orchid *Dactylorhiza incarnata*, southern marsh-orchid *D.praetermissa*, northern marsh-orchid *D.purpurella* and marsh helleborine *Epipactis palustris*. Other interesting plants of these slacks are small-fruited yellow-sedge *Carex serotina*, knotted pearlwort *Sagina nodosa*, lesser water plantain *Baldellia ranunculoides*, adder's tongue *Ophioglossum vulgatum*, black bog-rush *Schoenus nigricans* and slender spike-rush *Eleocharis uniglumis*.

Hollows dug to water cattle and past quarry workings have extended the depth and quantity of this rich habitat. Fen species occur near the stream outlet to Castlemartin Corse, and include water dock *Rumex hydrolapathum*, yellow loosestrife *Lysimachia vulgaris*, blunt-flowered rush *Juncus subnodulosus*, lesser water-parsnip *Berula erecta* and greater tussock-sedge *Carex paniculata*. Winter springs rise on the dune slopes and create small linear slacks and fen communities. Broomhill Burrows were managed as a rabbit warren until myxomatosis decimated the rabbit population in the mid 1950s. Grazing by cattle and a recovery in the rabbit population has, however, checked the spread of scrub and bracken, thereby maintaining the exceptional plant diversity of these dunes.

Amongst the large number of rare higher plants are hutchinsia *Hornungia petraea*, dune fescue *Vulpia membranacea*, sea stork's-bill *Erodium maritimum* and sea spurge *Euphorbia paralias* from the drier dune areas. Dune slacks have variegated horsetail *Equisetum variegatum*, whilst the strandline supports Ray's knotgrass *Polygonum oxyspermum ssp raii* and sea radish *Raphanus maritimus*. Where the dune gives way to Old Red Sandstone cliffs, rock sea-lavender *Limonium binervosum*, golden samphire *Inula crithmoides* and Portland spurge *Euphorbia portlandica* occur. The only known clump of dwarf thistle *Cirsium acaulon* in west Wales grows in Kilpaison Burrows.

Notable lichens include *Parmelia crinita* on sheltered Old Red Sandstone rocks in a small valley at the north-western edge of the site. *Teloschistes flavicans*, a rare south-western lichen, occurs on the dunes.

Of the insects, the coleoptera and hemiptera are outstanding, with the rove beetle, *Staphylinus caesarius*, and the tortoise beetles, *Cassida vibex* and *C. murraea* present, along with the bugs, *Nabis pseudoferus* and *Pinosomus varius*. Diptera include two rare species, *Schoenophilus versutus* and *Aphrosylus ferox*, both of these flies being found in the wetter areas. There are two

rare moths, the scarlet tiger *Callimorpha dominula* and the white colon *Sideridis albicolon*, whilst the great green bush-cricket *Tettigonia viridissima* is frequent.

Lapwings breed in the dune slacks and reptiles recorded include adder, grass snake, slow worm and lizard. Palmate newt and toad breed.

Remarks:

The site is within the Pembrokeshire Coast National Park.

Most of the site is owned by the National Trust.

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