

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

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

PEMBROKESHIRE

SKOMER ISLAND AND MIDDLEHOLM

<u>Date of Notification:</u>	1954, 1986, 2001
<u>National Grid Reference:</u>	SM 725095 and SM 747091
<u>O.S. Maps:</u>	1:50,000 Sheet number: 57 1:10,000 Sheet number: SM 70 NW; SM 71 SW
<u>Site Area:</u>	314.3 ha

Description:

The site is of special interest for its breeding seabird colonies, in particular for Manx shearwater *Puffinus puffinus*, puffin *Fratercula arctica*, storm petrel *Hydrobates pelagicus*, razorbill *Alca torda*, guillemot *Uria aalge*, lesser black-backed gull *Larus fuscus*, kittiwake *Rissa tridactyla*, for breeding chough *Pyrrhocorax pyrrhocorax* and short-eared owl *Asio flammeus* as well as for grey seal *Halichoerus grypus* which breed and haul out on the foreshore. The reef communities of the littoral zone, together with the sea caves around the island, is also of special interest. The endemic Skomer vole *Clethrionomys glareolus skomerensis* breeds on Skomer Island, and a number of nationally rare and scarce plants and lichens occur including three-lobed crowfoot *Ranunculus tripartitus*, the scheduled golden hair lichen *Teloschistes flavicans* and an assemblage of nationally scarce lichens. Maritime grassland and the cliff crevice zone are also of special interest together with a rich assemblage of coastal invertebrates. The islands are also of special geological interest. Skomer and Middleholm are located 1km west of the Marloes peninsula, separated from the mainland by the narrow tide race of Jack Sound. The resistant volcanic rocks, of Silurian age, with some interbedded sediments, form a plateau with numerous small rock outcrops bordered by steep sea cliffs up to 60 metres high. These cliffs have many narrow inlets (or “wicks”), sea caves and stacks.

GEOLOGY

The Skomer Volcanic Group, of Llandovery age, is significant amongst the Lower Palaeozoic rocks of the southern Caledonides for two reasons. Firstly, it post-dates the bulk of the volcanism which was largely confined to the Ordovician Period. Secondly, the volcanic products are mildly alkaline in composition and contrast with the tholeiitic to mildly transitional character of the Ordovician volcanics.

On Skomer Island and Middleholm the well-exposed volcanic succession is 1000m thick, and comprises alkali basalts, hawaiites, mugearites, rare benmorites and rhyolites, interbedded with fluvial sandstones. Eruption of the lavas was principally sub-aerial, as indicated by the presence of red boles on the tops of many flows, although the local minor development of pillow structures indicates some subaqueous eruptions. A single ignimbrite flow, which can be traced

from Skomer Island to Middleholm and the mainland, provides an important stratigraphic marker horizon.

BIOLOGY

The majority of the littoral zone consists of exposed bedrock, with the western sides of the island and its associated islets being subject to the greatest exposure. The sub-tidal fringe in these exposed areas is characterised by encrusting coralline algae, dabberlocks *Alaria esculenta* and dense aggregations of small mussels *Mytilus edulis*, or by kelp *Laminaria digitata* and dabberlocks overlying coralline and filamentous red algae. Less exposed areas support kelp with *Himanthalia elongata* overlying a similar community. Areas subject to strong water movement such as surge gullies and the areas between islets support a diverse under storey of sponges, sea squirts and encrusting bryozoans. Low shore communities include such rare species as the usually sub-tidal cup-coral *Balanophyllia regia*. Specialised habitats such as caves and rock pools are characterised by species normally found below the sub-tidal algal zone such as elephant's ear sponge *Pachymatisma johnstoni*. Further up-shore, exposed areas are dominated by encrusting barnacles such as *Semibalanus balanoides* and limpets *Patella* sp., with occasional patches of the exposed form of bladder wrack *Fucus vesiculosus* var. *linearis* where the bedrock becomes less steep, and a thin, broken cover of the pygmy lichen *Lichina pygmaea* higher on the shores. There is also a distinct horizontal band of pepper dulse *Osmundea pinnatifida* on the north-western side of Skomer. Less exposed areas have a mid-shore characterised by encrusting coralline algae such as *Corallina officinalis* with mussels or occasional thongweed *Himanthalia elongata*. In more sheltered conditions such as within South Haven, serrated wrack *Fucus serratus* and red algae dominate with knotted wrack *Ascophyllum nodosum* above. A rich under-boulder community exists here, with species such as Montagu's crab *Xantho incisus*, velvet swimming crab *Necora puber* and hairy crab *Pilumnus hirtellus*, together with fish species such as the clingfish *Lepadogaster lepadogaster* and the worm pipefish *Nerophis lumbriciformis*. Other sheltered inlets and beaches are characterised by channelled wrack *Pelvetia canaliculata* and spiral wrack *Fucus spiralis* below the lichen zone and above an often-scoured cover of barnacles and bedrock or boulders. A band of black tar lichen *Verrucaria maura* with laver bread seaweed *Porphyra* sp. occurs below yellow and grey lichen bands dominated by *Ramalina* sp. These bands are particularly wide (up to 40 metres) on the more exposed western sides of the site.

The sea-cliff vegetation varies from maritime grassland and cliff crevice communities in the west and south where exposure to salt-laden winds is greatest, to pockets of cliff scrub in the more sheltered northeast. Hummocks of thrift *Armeria maritima* and areas of sea-campion *Silene uniflora* characterise the much-modified maritime grassland, which is heavily grazed by rabbits on Skomer, and further modified by the manuring and trampling effects of sea-birds. Heathland, both maritime and inland, occurs only in small patches dominated by heather *Calluna vulgaris*. Bracken *Pteridium aquilinum* covers much of the interior, but purple moor-grass *Molinia caerulea* occurs in the valleys, and there are areas of short acidic grassland in the old fields surrounding the farmhouse on Skomer. Bluebell *Hyacinthoides non-scripta* and red campion *Silene dioica* flourish under the bracken. The diversity of microhabitats at this site has allowed the development of species-rich lichen communities that support a high number of rare and specialist species. These include those associated with nutrient enrichment of rock and soil surfaces by seabirds, such as *Ramalina polymorpha* and *Aspicilia epiglypta*. Other species of note include the scheduled golden hair lichen *Teloschistes flavicans*, the nationally rare species *Parmelia tinctina*, *Caloplaca britannica* and *Arthonia atlantica*, together with *Porina curnowii*

and *Rinodina orculariopsis*, all of which are associated with rock (saxicolous). Species associated with the ground surface (terricolous) include the nationally scarce *Rinodina conradii*, found on soil, heather stems or rabbit pellets, and *Trapeliopsis wallrothii*, found on turf and soil. Higher plants include the nationally scarce three-lobed crowfoot, in shallow pools or scrapes, and the nationally scarce lanceolate spleenwort *Asplenium obovatum*, Portland spurge *Euphorbia portlandica* and rock sea-lavender *Limonium procerum* ssp *procerum*. Other interesting species are chaffweed *Anagallis minima*, sea stork's-bill *Erodium maritimum* and the large, fleshy-leaved variety of buck's-horn plantain *Plantago coronopus* var. *maritimus*.

Skomer Island and Middleholm together support the largest concentrations of breeding seabirds in England and Wales. Razorbill nest on the cliffs in their thousands, along with many thousands of the burrow-nesting puffin and the nocturnal storm petrel. Nearly half of the UK population of Manx shearwater also breeds here, again numbering many thousands. Skomer and Middleholm also support other breeding seabirds in large numbers, including lesser black-backed gull, guillemot, kittiwake, and fulmar *Fulmarus glacialis*, together with herring gull *Larus argentatus* and greater black-backed gull *Larus marinus*, cormorant *Phalacrocorax carbo* and shag *Phalacrocorax aristotelis*. Chough also breed on the cliffs, feeding within the short maritime grassland, and the short-eared owl breeds in the interior of the island, feeding on small mammals. Other breeding birds include peregrine *Falco peregrinus*, oystercatcher *Haematopus ostralegus*, lapwing *Vanellus vanellus*, skylark *Alauda arvensis*, curlew *Numenius arquata*, wheatear *Oenanthe oenanthe*, linnets *Carduelis cannabina*, and reed bunting *Emberiza schoeniclus*. The ponds on Skomer support the only breeding gadwall *Anas strepera* in Pembrokeshire, along with mallard *A. platyrhynchos* and shoveler *A. clypeata*. Shelduck *Tadorna tadorna* and teal *A. crecca* occasionally nest, and teal also overwinter.

A unique race of the bank vole *Clethrionomys glareolus skomerensis* that is peculiar to Skomer occurs on the island, favouring areas of dense bracken with little understorey. The grey seal breeds and hauls out on the beaches and in the caves around Skomer and Middleholm. Around 10% of the South West Wales grey seal population pups are born here annually. An assemblage of scarce invertebrates, mainly beetles and moths, has been identified, associated with the coast or the ponds. These include the ground beetle *Masoreus wetterhallii*, which has been found on rabbit-grazed turf on Skomer, the leaf beetle *Cassida hemisphaerica* which feeds on sea campion, and the golden keyhole weevil *Sibinia sodalis* which feeds on thrift. The beetle *Apius robini* occurs on the seashore, preying on maritime springtails, and the darkling beetle *Crypticus quisquilius* can be found on sand surfaces. Water beetles associated with the ponds on Skomer include the nationally rare *Graptodytes flavipes* and the scarce *Helophorus griseus*. Moth species include thrift clearwing *Bembecia muscaeformis* and the black-banded moth *Polymixis xanthomista statices*, whose larval food plant is thrift, together with Barrett's marbled coronet *Hadena luteago barrettii* and the Devonshire wainscot *Mythimna putrescens*, which both have a distinctly coastal distribution.

Remarks:

1. Skomer Island is owned by the Countryside Council for Wales (CCW) and leased to the Wildlife Trust West Wales. The foreshore around both Skomer and Middleholm is leased to CCW from the Crown Estate. Middleholm is owned by the National Trust.
2. Skomer Island down to Mean Low Water Mark, and the foreshore around Middleholm, is designated as a National Nature Reserve. The foreshore from Highest Astronomical Tide (HAT) seawards is included within Skomer Marine Nature Reserve. The foreshore is also

included within Pembrokeshire Marine/Sir Benfro Fôrol Special Area for Conservation (cSAC) for its reef and grey seal features. Skomer Island and Middleholm are part of the Skomer and Skokholm Special Protection Area (SPA).

3. The SSSI lies within Pembrokeshire Coast National Park.
4. The grey seal is listed in Annex IIa of the EC Habitats Directive (Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna).
5. Golden hair lichen *Teloschistes flavicans* is listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended).

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