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

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

**CONWY** **CREIGIAU RHIWLEDYN/LITTLE ORMES HEAD**

**Date of Notification:** 1960, 1978, 1982, 2002

**National Grid Reference:** SH 806824 to SH 820825

**O.S. Maps:** 1:50,000 Sheet number: 116
1:10,000 Sheet number: SH 88 SW

**Site Area:** 35.5 ha (approx.)

**Description:**

Little Ormes Head (Creigiau Rhiwledyn) is of special scientific interest for its geological, botanical, ornithological and marine biological features. The limestone headland, which rises to a height of 141 m, includes sea cliffs and boulders and extends for 1.4 km along the North Wales coastline, separating Penrhyn Bay from Llandudno Bay.

The site supports the following features of special interest. Geologically the site is important for its Carboniferous stratigraphy where reef formations are exposed in the disused quarries and coastal cliffs. The limestone supports calcicolous (lime-loving) grassland communities of high botanical interest. Cliff, rock and quarry outcrops support a mixture of coastal habitats. The scarce spiked speedwell *Veronica spicata ssp. hybrida* and a variety of other nationally scarce species are present, as is a notable assemblage of lichens. Specialised and nationally scarce cave, rockpool, overhang and rock-boring bivalve biotopes (physical habitats and their associated community of species including animals and plants) occur on bedrock and boulders within the intertidal zone. The sea cliffs regularly support nationally important breeding seabird populations of the cormorant *Phalacrocorax carbo*.

**Geology**:

The Little Orme affords superb sections cut through an Asbian reef - the best example of its kind in Wales. This reef contains rich invertebrate faunas. Its structure in relation to the seabed and depositional and tectonic slopes has not been studied, although it is believed this reef is one of a series of apron reef structures, stretching from here to Prestatyn, on the edge of a major basin to the north. In addition to the reef, the site also shows the reef-shelf transition at the edge of the shelf area bordering the northern margin of the Wales - Brabant Massif. This is an important site with considerable research potential in studies of Carboniferous sedimentation and palaeoecology.

**Biology**:

Small patches of species-rich grassland are present on the rockiest and thinnest soils on south and west facing slopes and around limestone crags. The short, open turf is composed of sheep's

fescue *Festuca ovina* with crested hair-grass *Koeleria macrantha*, meadow oat-grass *Helictotrichon pratense* (=*Avenula pratensis*) and cock's-foot *Dactylis glomerata* with frequent hoary rock-rose *Helianthemum oelandicum ssp. incanum*, a nationally scarce species, and other herbs such as wild thyme *Thymus polytrichus* and carline thistle *Carlina vulgaris*. Where hoary rock-rose is less frequent in this short turf grassland, a more maritime influence is revealed by the occurrence of spring squill *Scilla verna* and red fescue *Festuca rubra ssp. juncea*.

In the southern corner of the site on south facing slopes below limestone crags and where the soils are deeper and sward more lightly-grazed than around the summit, there are stands of species-rich grassland. This short closed turf, has frequent sheep's fescue, crested hair-grass and meadow oat-grass with a rich mixture of herbs that includes common rock-rose *Helianthemum nummularium*, salad burnet *Sanguisorba minor ssp. minor*, lady's bedstraw *Galium verum* and bird's-foot-trefoil *Lotus corniculatus*.

On less severe slopes and the sides of small shallow valleys between limestone crags on the summit plateau, a less species-rich grassland is present which forms a mosaic with extensive heavily sheep-grazed grassland dominated by common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, crested dog's-tail *Cynosurus cristatus* and perennial rye-grass *Lolium perenne*. Common herbs in this sward are white clover *Trifolium repens*, daisy *Bellis perennis*, thistles *Cirsium spp*. and nettle *Urtica dioica*. The nationally scarce species white horehound *Marrubium vulgare*, food plant for the equally rare horehound plume moth *Wheeleria spilodactyla*, is found scattered on the edges of the nettle-infested grassland. Where grazing pressure has become relaxed, stands of bracken *Pteridium aquilinum* and gorse *Ulex europaeus* scrub have established a foothold.

Other nationally scare species of plant present amongst the grassland are spring cinquefoil *Potentilla neumanniana*, dwarf mouse-ear *Cerastium pumilum* and spiked speedwell *Veronica spicata*, with spring sandwort *Minuartia verna*, hutchinsia *Hornungia petraea* and rock stonecrop *Sedum forsterianum* present amongst the limestone crags and outcrops.

The disused quarry floors and coastal slopes in the eastern section of the site support a short turf dominated by fine-leaved grasses such as fescues. The area contains components of both calcicolous grassland, bird's-foot-trefoil, fairy flax *Linum catharticum*, glaucous sedge *Carex flacca*, blackstonia *Blackstonia perfoliata* as well as maritime grassland with thrift *Armeria maritima* and buck's-horn and the sea plantains *Plantago coronopus* and *P. maritima*.

The precipitous north facing cliffs support some maritime cliff ledge community where sea cabbage *Brassica oleracea* and sea campion *Silene vulgaris ssp. maritime* dominate, however many of the ledges are fully occupied by colonies of breeding seabirds. West facing cliffs have sea cabbage replaced by red valerian *Centranthus ruber*.

This site supports a notable assemblage of rock and soil inhabiting lichens, characteristic of carboniferous limestone cliff, outcrops and crevices. *Caloplaca* species are well represented and support the nationally rare lichen-parasitizing fungus *Opegrapha parasitica*.

The site is important for its nationally important numbers of breeding cormorant *Phalacrocorax carbo*, which occur on sea cliffs predominantly between March and August of each year. A bonus feature is the assemblage of breeding guillemot *Uria aalge*, razorbill *Alca torda*, kittiwake *Rissa tridactyla* and shag *Phalacrocorax aristotelis*, which regularly occur alongside the

cormorant.

As a bonus feature the headland caves have historically supported hibernating populations of lesser horseshoe bat *Rhinolophus hipposideros*.

**Marine Biology:**

The intertidal area is of special interest due to the occurrence of specialised and nationally scarce biotopes (seashore and seabed habitats and their associated communities), which are largely characteristic of the hard vertical limestone rock of the headland, or the softer boulders to the west of the headland. Sand-scoured cave habitats occur around the peninsula and are typified by faunal crusts dominated by the common mussel *Mytilus edulis*, acorn barnacles such as *Semibalanus balanoides* and anemones such as *Metridium senile*.

The sea cliffs show an almost uninterrupted rocky shore zonation around the headland. The upper zonation is characterized by wide but patchy bands of yellow and grey lichens, below which is a nearly continuous band of black tar lichen *Verrucaria maura*. Acorn barnacles such as *Chthamalus montagui, Chthamalus stellatus* and *Semibalanus balanoides* occur below the lichens. Typically the seaward zonation is characterized by a nationally scarce 'piddock' biotope with the rock boring bivalve *Hiatella arctica*. To the east of the headland this species occurs amongst the toothed wrack *Fucus serratus*. However along the majority of the rock headland it occurs within a band of oarweed *Laminaria digitata* to below mean low water. Unusually high numbers of the polychaete worm *Polydora sp*. with the anemone *Sagartia troglodytes*, are found at the bottom of the shore. This biotope is rarely described in the United Kingdom and this is the only recorded intertidal example. Other biotopes are interspersed along the area of zonation, the most common of which is dominated by the common mussel. To the west of the headland, the seaward band of 'piddocks' continues within the zone of oarweed, but on boulders rather than bedrock outcrops. The boulders have 'shaded overhangs' typified by red seaweeds such as *Membranoptera alata* and the dulce *Palmaria palmata*, with sponges such as *Hymeniacidon perleve* and the breadcrumb sponge *Halichondria panicea*. Under-boulder habitats are typified by bryozoan crusts, scaleworms *Harmöthoe spp*., sponges such as *Hymeniacidon perleve*, *Scypha ciliata* and the breadcrumb sponge, crabs such as broad clawed porcelain crab *Porcellana platycheles* and long clawed porcelain crab *Pisidia longicornis* and the brittlestar *Ophiothrix fragilis.*

Sandy rockpools characterized by seaweeds such as toothed wrack, mermaids tresses *Chorda filum* and filamentous red algae *Ceramium spp*. and *Polysiphonia spp*. occur to the far west of the headland. Other species found in the rockpools include prawns, dog whelk *Nucella lapillus* and common periwinkle *Littorina littorea*. The back of the shore here is either of boulder clay or low garden walls, fronted by artificially restored shingle beach.

To the east of the site a small beach at Porth Dyniewaid is composed of shingle. Large rock boulders exhibit acorn barnacle and common mussel zonation, with brown algal crusts on some upper shore caves.

**Remarks:**

Part of the site is owned by the North Wales Wildlife Trust (NWWT)

The intertidal section of this site contains 'reef' habitat features as described under Annex 1 of

the EC Habitats Directive (Directive 92/43/EEC on the Conservation of Natural Habitats and ofWild Fauna and Flora). Areas of this site below Mean Low Water mark are part of the Y Fenai a Bae Conwy/Menai Strait and Conwy Bay Special Area of Conservation (SAC).

*Veronica spicata ssp. hybrida* is a schedule 8 species in the Wildlife and Countryside Act (as amended).

Lowland calcareous grassland & calcareous grassland, maritime cliff & slope, improved grassland, broadleaved, mixed and yew woodland, bracken, inland rock are all Biodiversity Action Plan habitats. The lesser horseshoe bat *Rhinolophus hipposideros* is a priority Biodiversity Action Plan species.

The lichens *Leptogium diffractum* and *Catapyyrenium pilosellum* are 'near threatened' Red Data Book species.