

County: North Yorkshire **Site Name:** Iron Scar & Hundale Point to Scalby Ness

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981.

Local Planning Authority: North York Moors National Park, (Scarborough Borough Council)

National Grid Reference: TA 017964, TA 021957–TA 036908

Ordnance Survey Sheets 1:50,000: 101 **1:25,000:** TA 09

Area: (approx.) 125.3 (ha)309.6 (ac)

First Notified: 1984 (Scalby Ness only) **Date of Revision:** 1986

Description:

The cliffs and intertidal reefs between Iron Scar and Scalby Ness provide an almost complete section through the rocks of the Lower and Middle Jurassic Aalenian, Bajocian and Bathonian Stages and the exposures here are of national importance. In addition important fossil plant localities occur at Cloughton Wyke and Scalby Ness.

Within the Iron Scar to Hundale sector of the site, the Aalenian to Bajocian units of the Jurassic are well displayed. The best exposure of the Eller Beck Formation in Yorkshire is seen at Iron Scar and exhibits some of the most spectacularly-preserved trace fossils seen anywhere in the Yorkshire Middle Jurassic. Hundale Point is the type locality for the Scarborough Formation, the most important marine horizon to occur within the dominantly non-marine Middle Jurassic rocks of Yorkshire which yields ammonite fossils of great importance for determining the exact age of the Yorkshire Middle Jurassic sequence. At Cloughton Wyke there is one of the best exposures of the 'Millepore Bed' in Yorkshire, with an abundant marine fauna, including corals. The adjacent non-marine 'Deltaic beds' (especially the Gristhorpe Member) are of great interest for their palaeobotany and sedimentology.

At Cloughton Wyke a rich fossil plant horizon has yielded over 60 species of well-preserved plants including *Ptilophyllum*, *Otozamites* and *Coniopteris*. Of particular importance is the occurrence of both male and female reproductive elements of the plant *Nilsonia tenuinervis*, which has enabled palaeobotanists to build up reconstructions of this fossil cycad. This locality is nationally important for studies of systematic palaeobotany, especially of the gymnosperms.

The coast section between Hundale Point and Scalby Ness exposes the best and most important sections of the Scalby Formation. In the vicinity of Hundale Point the Moor Grit is well-displayed and is interpreted as the depositional product of a braided river system. Between Long Nab and Scalby Ness an exhumed meander belt is clearly seen in the cliff and foreshore exposures of the Long Nab Member. Numerous fossil dinosaur footprints occur in the Scalby Formation at Burniston Wyke. The whole section from Hundale to Scalby is of high sedimentological importance and is the subject of continuing research. As a model for aiding the interpretation of some Middle Jurassic oil reservoir formations of the northern North Sea (e.g. the Brent Sands), the section is of considerable interest to, and is frequently visited by, geologists in the oil industry.

At Scalby ness plant beds within the Scalby Formation contain an important fossil flora, well-known for its outstanding examples of numerous Ginkgoales. The most significant, *Ginkgo huttoni*, here at its type locality, closely resembles the only extant species, *Ginkgo biloba*.

Other Information:

This site encompasses four locations identified as of national importance in the Geological Conservation Review, viz Iron Scar-Hundale (Aalenian-Bajocian); Cloughton Wyke Palaeobotany); Hundale Point-Scalby Ness (Bathonian) and Scalby Ness (Palaeobotany).