County: Cumbria **Site Name: Hutton Roof Crags**

District: South Lakeland

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

Local Planning Authority: South Lakeland District Council

National Grid Reference: SD 555777 **Area:** 391.7 (ha) 967.9 (ac)

Ordnance Survey Sheet 1:50,000: 97 **1:10,000:** SD 57 NW, NE

Date Notified (Under 1949 Act): 1960 **Date of Last Revision:** 1975

Date Notified (Under 1981 Act): 1988 **Date of Last Revision:** 1988

Other Information:

1. Most of the site is listed in 'A Nature Conservation Review', edited by D. A. Ratcliffe, 1977, published by Cambridge University Press.
2. The site includes Park Wood National Nature Reserve (area 14.71 ha.)
3. The site includes Lanceolot Clark Storth Reserve, owned by Cumbria Trust for Nature Conservation.
4. The site boundary has been revised to include several extensions at renotification.

Description and Reasons for Notification:

Hutton Roof Crags SSSI is a low Carboniferous limestone hill, situated approximately 5 km west of Kirkby Lonsdale and 2 km east of the M6 motorway at Burton. Although separated from the Farleton Knott SSSI to the north by a shallow valley and the Clawthorpe-Hutton Roof road, the two sites form a single geographical and ecological unit. The site includes Park Wood National Nature Reserve on its eastern slope.

The site is of both geological and biological interest. A broad range of limestone habitats are exhibited including open pavement, calcareous grassland and heath, scrub and mature woodland. Among the rich flora are a number of local and nationally rare species, sometimes in abundance. The site is also noted for its diverse invertebrate fauna, particularly Lepidoptera, some of which are uncommon or threatened species.

The limestone pavements here occupy an altitudinal position (140–270 m) intermediate between the low lying coastal pavements of Gait Barrows and the inland, sub-montane examples at Orton and on Ingleborough. Large areas of the site comprise bare limestone pavement of exceptional quality, exhibiting a wide range of morphological detail in undisturbed condition. The variety of pavement types and surface structure is outstanding and includes the steeply inclined pavement slabs of the Rakes and Lanceolot Clark Storth which are the finest examples of their type in Britain.

Although the floristic value of the individual pavements varies, Hutton Roof Crags in general is very important botanically. A national survey of limestone pavements placed Hutton Roof Crags second on a national rank of floristic index. The moist and shaded grikes support a great diversity of plants including rare and uncommon species such as dark-red helleborine *Epipactis atrorubens*, angular Solomon's-seal *Polygonatum odoratum*, limestone fern *Gymnocarpium robertianum* and bloody crane's-bill *Geranium sanguineum*. The rare rigid buckler-fern

Dryopteris villarii is abundant and the site is the principal stronghold for this species in Britain. Over much of the pavement scrub and scattered trees of ash *Fraxinus excelsior*, hazel *Corylus avellana* and hawthorn *Crataegus monogyna* occurs. Other scrub species associated with the pavements include juniper *Juniperus communis*, yew *Taxus baccata*, guelder rose *Viburnum opulus*, blackthorn *Prunus spinosa*, and the rare Lancastrian whitebeam *Sorbus lancastriensis*.

Often occurring in a mosaic with the pavement areas is unimproved calcareous grassland and more occasionally basic dwarf-shrub heath. Hutton Roof Crags supports one of the largest areas of calcareous grassland in South Cumbria after Scout and Cunswick Scars, Whitbarrow and Farleton Knott. The grassland sward is generally dominated by blue moor-grass *Sesleria albicans* or by a mixture of grasses including sweet vernal-grass *Anthoxanthum odoratum*, meadow oat-grass *Avenula pratensis* and bents *Agrostis* species. Although typically herb-poor some uncommon plants do occur including limestone bedstraw *Galium sterneri*, vernal sandwort *Minuartia verna*, squinancywort *Asperula cynanchica*, spring cinquefoil *Potentilla tabernaemontani*, fly orchid *Ophrys insectifera* and mountain everlasting *Antennaria dioica*. Limited patches of basic heath occur in mosaic with calcareous grassland and are dominated by heather *Calluna vulgaris* and bilberry *Vaccinium myrtillus*.

On deeper drift soils found in isolated areas on the site, species of more acidic conditions predominate. The Ploverlands for example supports acid grassland dominated by wavy hair-grass *Deschampsia flexuosa*, mat-grass *Nardus stricta*, and tormentil *Potentilla erecta* with some bilberry and bracken. On the deeper soils lying north of Uberash Plain an expanse of gorse *Ulex europaeus* scrub has developed with associated dense bracken.

Woodland of both semi-natural and planted origin is included in the site, the latter to allow the inclusion of valuable but isolated limestone pavements. The ancient semi-natural Park Wood NNR and Pickles Wood support woodland stand types rare in Britain and are among the best examples of their types in South Cumbria.

Park Wood NNR on the south-east facing slope of Hutton Roof Crags has developed on generally shallow basic soils with limestone outcrops and deeper drift deposits. The wood contains several stand types characteristic of limestone geology including dry ash-maple *Acer campestre*, here at its north-western limit. Species of note recorded in the ground flora include lily-of-the-valley *Convallaria majalis*, herb Paris *Paris quadrifolia* and the rare mezereon *Daphne mezereum*.

Pickles Wood is of the northern calcareous ash-hazel stand type with ash and oak dominating the canopy along with wild cherry *Prunus avium* and some elm *Ulmus glabra*. The rich ground flora consists of carpets of dog's mercury *Mercurialis perennis* with abundant bluebell *Hyacinthoides non-scripta* and wood anemone *Anemone nemorosa*. The local herb Paris is frequent among the many other herb species found here.

The complex association of limestone habitats with their rich flora is a major factor contributing to the diverse invertebrate fauna found on the site. Among the great variety of Lepidoptera recorded, are the rarities, high brown fritillary *Argynnis adippe* and least minor *Photedes captiuncula* along with many uncommon species including pearl-bordered fritillary *Boloria euphrosyne*, Duke of Burgundy *Hamearis lucina*, chestnut-coloured carpet *Thera cognata* and thyme pug *Eupithecia distinctaria*.