Date Notified: 15th August 1986

File ref: NY 70/3

County: Cumbria **Site Name: Smardale Gill**

District: Eden

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

Local Planning Authority: Eden District Council

National Grid Reference: NY 725067 **Area:** 116.3 (ha) 287.4 (ac)

Ordnance Survey Sheet 1:50,000: 91 **1:10,000:** NY 70 NW

Date Notified (Under 1949 Act): 1968 **Date of Last Revision:** 1975

Date Notified (Under 1981 Act): 1986 **Date of Last Revision:** 1986

Other Information:

1. The site has been modified by extension and deletion at this revision.
2. Part of the site is managed as a nature reserve by the Cumbria Trust for Nature Conservation.
3. The site is listed in 'A Nature Conservation Review', edited by D. A. Ratcliffe 1977, published by Cambridge University Press.

Description and Reasons for Notification:

Smardale Gill lies about 4 km west of the town of Kirkby Stephen in Cumbria where the Scandal Beck has cut a deep gill through the Carboniferous limestone and other sedimentary rocks. The site lies between 200 and 300 m in altitude and is of great importance for its limestone grassland and woodland communities, and for areas of interesting marshy grassland. Associated communities of acidic grassland, scrub, river, rock outcrop and limestone flush add to the value of the site. Smardale Gill is also importance for its fauna, most notably for the butterflies and the range of breeding birds.

As is the predominant woodland type in the Gill although there are also areas of ash-wych elm, birch and alder communities. In the context of eastern Cumbria and indeed nationally these limestone ash woods are very important for nature conservation being species-rich and relatively extensive. In east Cumbria they are second only in importance to the Helbeck and Swindale Woods near Brough which in any case support rather different communities. The ash woodland at Smardale has a canopy dominated by ash and birch *Betula pubescens* and *B. pendula* with some sessile oak and rowan. Coppiced hazel is frequent in the shrub layer with some hawthorn and locally frequent ash and birch regeneration. The ground flora is mostly dominated by dog's mercury *Mercurialis perennis* or the grasses false brome *Brachypodium sylvaticum* and tufted hair-grass *Deschampsia cespitosa*. The flora is generally rich and other frequently occurring species include sanicle, primrose, common violet, lady fern and enchanter's nightshade *Circaea lutetiana*. More notable or rare species include herb-Paris *Paris quadrifolia*, broad-leaved helleborine *Epipactis helleborine*, stone bramble *Rubus saxatilis* and bird's-nest orchid *Neottia nidus-avis*. In some stands wych elm occurs with the ash over a

similar ground flora. Elsewhere are smaller areas of alder or birch dominated woodland and areas of birch, hazel or hawthorn scrub.

Limestone grassland occurs on the valley sides where thin soils overlying the limestone are grazed by stock. This grassland is very species-rich and varied at Smardale. The predominant grasses are blue moor-grass *Sesleria albicans*, crested hair-grass *Koeleria cristata*, sheep's fescue *Festuca ovina* and meadow oat-grass *Avenula pratense*. The form and relative abundance of species varies considerably across the site but amongst the wide range of herbs found are common rockrose, salad burnet, wild thyme, lady's and limestone bedstraws, fairy flax and the scarcer mountain everlasting *Antennaria dioica*, horseshoe vetch *Hippocrepis comosa* and autumn gentian *Gentianella amarella*. The rare bird's-foot sedge *Carex ornithopoda* is also found. Other species are found in greater abundance along the railway embankments or cuttings, most notably the bloody crane's-bill *Geranium sanguineum*, fragrant orchid *Gymnadenia conopsea*, greater butterfly orchid *Platanthera chlorantha* and fly orchid *Ophrys insectifera*. The scarce common wintergreen *Pyrola minor* thrives on the disused railway track.

An unusually rich form of marshy grassland is found within the site. This is dominated by purple moor-grass *Molinia caerulea* and sharp-flowered rush *Juncus acutiflorus* but includes a great variety of other plants, such as pepper-saxifrage *Silaum silaus*, devil's-bit scabious *Succisa pratensis*, saw-wort *Serratula tinctoria* and a range of sedges.

Lime-rich flushes or seepages, particularly by the riverside, support a further vegetation community with its own range of characteristic and unusual plants. These include the bird's-eye primrose *Primula farinosa*, grass-of-Parnassus *Parnassia palustris*, lesser club-moss *Selaginella selaginoides* and flat sedge *Blysmus compressus*. Off the limestone or in localities where it is covered by deeper soils or drift there are more acidic grassland communities. These are generally not as rich in plant species but they do support a range of different species, some of which are important food plants for butterfly larvae. The main communities are dominated by mat-grass *Nardus stricta* or bent and fescue grasses and tormentil and heath bedstraw are typical associated herbs.

The rich variety of semi-natural habitats at Smardale Gill supports important animal communities. The bird and butterfly communities are recognised to be of outstanding interest. Over twenty species of butterfly have been recorded which is exceptional for this northern and relatively high location. Most important are the breeding colonies of the northern brown argus and Scotch argus, these being certainly the strongest known colonies in eastern Cumbria. The Scotch argus colony is probably the largest in Britain. The woodland is particularly important for breeding birds, with over 30 species regularly recorded. These include redstart, wood warbler, pied flycatcher, treecreeper, long-tailed tit and sparrowhawk. In total over 50 bird species have been recorded as breeding within the site. Thriving colonies of badger and red squirrel are a further valuable feature and the richness of other faunal groups is indicated by records for scarce moths and snails.