CITATION

MOFFAT HILLS
SITE OF SPECIAL SCIENTIFIC INTEREST

Dumfries and Galloway / Scottish Borders

Site code: 1172

NATIONAL GRID REFERENCE: NT155135

OS	1:50,000 SHEET NO:	Landranger Series	78,79
	1:25,000 SHEET NO:	Explorer Series	330

AREA: 2891.92 hectares

NOTIFIED NATURAL FEATURES

Geological:	Geomorphology:	Fluvial Geomorphology of Scotland
	Quaternary geology and geomorphology:	Quaternary of Scotland
	Stratigraphy :	Caradoc-Ashgill
	Stratigraphy :	Llandovery
Biological:	Upland habitats:	Upland assemblage
	Vascular plants:	Vascular plant assemblage

DESCRIPTION

The Moffat Hills is an upland massif of Silurian greywackes and shales which lie approximately 6km north east of Moffat forming a watershed between the Tweed and Annan river systems. The summits of the hills, many above 750m, are flat or rounded but the valleys are steep-sided and often broken by crags, whilst the subsidiary streams have cut deep ravines.

Glacial landforms as developed in the Southern Uplands, are exceptionally well demonstrated in this site. The key erosion features include the corrie at the head of Loch Skeen and the fine example of a hanging valley which it forms above the classic fault-guided glacial trough of Moffat Dale with the spectacular waterfall of the Grey Mare's Tail plunging from the hanging valley into the trough below. This waterfall (over 200m high) comprises a series of cascades of varying size which fall over protruding bedrock benches into plunge pools below. The origin of the waterfall is due to more intense glacial erosion within the main valley (now occupied by the Moffat Water), than in the tributary valley of the Tail Burn. The bedrock is critical in defining the controls on the present channel as the strike of the underlying Silurian greywackes is at right angles to the flow of the water, thus accentuating the role of the protruding bedrock benches. The Loch Skeen area was an important source of ice accumulation during the Loch Lomond Stadial and supported part of the largest glacier system in the Southern Uplands. It is particularly significant in this context since Loch Lomond Stadial glaciers developed at relatively few sites in the Southern Uplands compared with the Highlands. Loch Skeen is

also noted for a fine assemblage of hummocky moraines and end moraines, the form and distribution of which suggests that the glacier in the Loch Skeen basin may have receded actively, in contrast to most other Loch Lomond Stadial glaciers in Scotland.

Dob's Linn is a site of immense palaeontological stratigraphical and historical interest, containing the classical graptolitic sites and succession upon which Charles Lapworth erected the sequence of upper Ordovician graptolite zones now used in world wide correlation. This site is currently the subject of great international attention as an Ordovician/Silurian System boundary stratotype. This classic locality also shows the standard section for the base of the Llandovery Series and the base of the Silurian Period. Its graptolite-rich sequence shows a graptolite zonation (from the *persculptus* to the *maximus* zone) spanning the Ashgill-Llandovery boundary and including the Upper Hartfell Shale, Birkhill Shale and Gala Greywacke. This outstanding site is one of Britain's most important stratigraphic localities.

Moffat Hills includes the only high altitude oligotrophic loch in Annandale and Eskdale and the richest assemblage of montane and sub-montane plant species in the Southern Uplands. The site has a wide range of upland plant communities.

Acidic grassland comprising bent *Agrostis* spp, and fescue *Festuca* spp, grasses and including viviparous fescue *Festuca vivipara*, cover much of the site but in damper peatier areas heath rush *Juncus squarrosus* and mat-grass are widespread. Extensive areas of blanket bog occur, especially around Loch Skeen and are dominated by heather and hare's-tail cottongrass. Cloudberry is abundant in these areas. Towards the summits are examples of snow-bed heath dominated by blaeberry and mountain crowberry and areas of dwarf heather, whilst on the summits themselves montane grassland with stiff sedge *Carex bigelowii* and dwarf willow *Salix herbacea* is extensive and patches of *Racomitrium lanuginosum* heath occur in rockier areas. Numerous springs, rills and soligenous mires occur, many of them base-enriched and dominated by mosses and liverworts such as *Philonotis fontana* and *Bryum weigelii*. Parsley fern is abundant on areas of scree and relic fragments of oak-ash-wych elm woodland survive in the lower parts of some ravines.

The major botanical feature of this site is its richness due, in part, to the refuge provided by the numerous crags and the calcareous nature of the substrate. Rare and notable plant species vary in their abundance, some with only one or two locations, and include holly fern, purple saxifrage, pyramidal bugle, downy willow, alpine saw-wort and alpine cinquefoil. On ledges a tall-herb community that includes roseroot, alpine scurvygrass and mountain sorrel is well represented, whilst in springs and soligenous mires alpine foxtail, sheathed sedge *Carex vaginata*, hairy stonecrop and pale forget-me-not are found. Other notable species typical of more acidic habitats include bearberry, bog bilberry and dwarf cornel. A number of rare hawkweeds *Hieracium* spp, occur on the site, some of them endemic to the area and include *H. longilobum*, *H. chrysolorum* and *H. stenophyes*.

Additional non-notified features of biological interest include a wide range of upland breeding birds and an invertebrate fauna that includes Arctic-alpine sawflies *Hymenoptera* and the northern moth *Anarta melanopa*. The rare fish Vendace, *Coregonus albula* has been introduced into Loch Skeen as part of the programme to rescue natural populations under threat and establish new populations in suitable locations. A feral goat population is also present on this site.

NOTIFICATION HISTORY

First notified under the National Parks and Access to the Countryside Act 1949 as White Coomb, Loch Skeen and Dob's Linn SSSI: 1956, 1972, 1974.
Re-notified under the Wildlife and Countryside Act 1981 as Moffat Hills SSSI: 26 August 1988 with a 76.48ha increase in area.
Notification reviewed under the Nature Conservation (Scotland) Act 2004: 8 January 2010.

REMARKS

Measured area of site corrected from 2,857.9 ha.

Moffat Hills SSSI is designated as Moffat Hills Special Area of Conservation (SAC) for the European habitats listed below:

Habitats:
- Acidic scree
- Alpine and subalpine heaths
- Blanket bog
- Dry heaths
- Montane acid grasslands
- Plants in crevices on acid rocks
- Plants in crevices on base-rich rocks
- Tall herb communities