

EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Citation for Special Area of Conservation (SAC)

Name:	Asby Complex
Unitary Authority/County:	Cumbria
SAC status:	Designated on 1 April 2005
Grid reference:	NY598112
SAC EU code:	UK0014778
Area (ha):	3122.23
Component SSSI:	Crosby Gill SSSI, Crosby Ravensworth Fell SSSI, Ewefell Mire SSSI, Great Asby Scar SSSI, Sunbiggin Tarn and Moors and Little Asby Scar SSSI, The Clouds SSSI

Site description:

The Asby Complex on Carboniferous limestone in south Cumbria contains extensive examples of calcareous grassland in a mosaic with a wide range of other habitats, including limestone pavements, fens, purple moor-grass *Molinia caerulea* meadows and dry heaths. A number of rare species are associated with these sub-montane semi-natural dry grasslands, including bird's-foot sedge *Carex ornithopoda* and dwarf milkwort *Polygala amarella*. Purple moor-grass meadows occur in extensive pastures in association with fen and semi-natural dry grassland communities, as well as locally in hydrosereal transitions on lake margins.

Sunbiggin Tarn and Moors is considered to be the most important location in Britain for hard-water springs depositing lime (tufa formation), owing to the extent of the habitat type and the degree of conservation of spring-head structures. Nearby, Crosby Gill has areas of tufa with transitions to calcium-rich fens and holds good populations of alpine bartsia *Bartsia alpina*. Large tufa mounds formed around spring-heads are frequent. There are transitions to a range of calcium-rich fens, calcareous grasslands and acid heath.

There are extensive calcium-rich flushes amidst moorland and grassland. An important example of hydrosereal fen community occurs on the lake margins in the vicinity of Sunbiggin Tarn. There are also lake-side transitions to reedswamp vegetation. Sunbiggin Tarn supports a large population of Geyer's whorl snail *Vertigo geyeri* in upland calcareous flushes with a rich assemblage of arctic-alpine plants. It also hosts a large population of slender green feather-moss *Drepanocladus vernicosus* in extensive upland flush systems and wet calcareous sedge fen. *D. vernicosus* grows here with black bog-rush *Schoenus nigricans* and the liverwort *Leiocolea bantriensis*. Away from the lake the site has an exceptionally rich flora and contains a number of rare and local northern plant species, such as bird's-eye primrose *Primula farinosa*.

Limestone pavements at Asby have a well-developed flora of species typical of more montane pavements and sheep-grazed pastures. Most of the pavements contain dog's mercury *Mercurialis perennis* and wall lettuce *Mycelis muralis*, but in the main the herb flora is restricted, perhaps reflecting exposure to grazing sheep over many decades. The grikes (the cracks between the limestone blocks) provide a niche for a varied assemblage of ferns. Green spleenwort *Asplenium viride*, wall-rue *Asplenium ruta-muraria*, maidenhair spleenwort *Asplenium trichomanes*, brittle bladder-fern *Cystopteris fragilis*, male-fern *Dryopteris filix-mas*, hard shield-fern *Polystichum aculeatum* and hart's-tongue *Phyllitis scolopendrium* occur

in most pavements, with limestone fern *Gymnocarpium robertianum* and rigid buckler-fern *Dryopteris submontana* in some pavements. Where grazing is less intensive, the flora is more diverse and trees and shrubs grow beyond the confines of the grikes.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Alkaline fens. (Calcium-rich springwater-fed fens)
- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*. (Calcium-rich fen dominated by great fen sedge (saw sedge))*
- European dry heaths
- Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. (Calcium-rich nutrient-poor lakes, lochs and pools)
- Limestone pavements*
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*). (Purple moor-grass meadows)
- Petrifying springs with tufa formation (*Cratoneurion*). (Hard-water springs depositing lime)*
- Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*). (Dry grasslands and scrublands on chalk or limestone)

Qualifying species: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Geyer's whorl snail *Vertigo geyeri*
- Slender green feather-moss *Drepanocladus (Hamatocaulis) vernicosus*

Annex I priority habitats are denoted by an asterisk (*).

This citation relates to a site entered in the Register of European Sites for Great Britain.
Register reference number: UK0014778
Date of registration: 14 June 2005

Signed: *Trevor Salmon*

On behalf of the Secretary of State for Environment,
Food and Rural Affairs