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

Citation for Special Area of Conservation (SAC)

Name:	Morecambe Bay Pavements
Unitary Authority/County:	Cumbria, Lancashire
SAC status:	Designated on 1 April 2005
Grid reference:	SD440869
SAC EU code:	UK0014777
Area (ha):	2609.69
Component SSSI:	Cringlebarrow and Deepdale SSSI, Farleton Knott SSSI, Gait Barrows SSSI, Hawes Water SSSI, Hutton Roof Crags SSSI, Marble Quarry and Hale Fell SSSI, Middlebarrow SSSI, Scout and Cunswick Scars SSSI, Thrang End and Yealand Hall Allotment SSSI, Thrang Wood SSSI, Underlaid Wood SSSI, Whitbarrow SSSI

Site description:

This site is the best British example of lowland limestone pavements that range from low to moderate altitudes. Some of the pavements form woodland clearings that are sheltered and warm up quickly in spring. The pavement flora is here at its most diverse and, where stock grazing is absent, can be seen at its best because plant growth is not confined to the grikes (spaces between the limestone blocks that form the pavement). Trees and shrubs, including yew *Taxus baccata*, juniper *Juniperus communis*, buckthorn *Rhamnus catharticus*, hazel *Corylus avellana*, small-leaved lime *Tilia cordata* and ash *Fraxinus excelsior*, grow above the pavement surface. Ferns are well represented on the pavements and include rustyback *Ceterach officinarum* and the nationally scarce rigid buckler-fern *Dryopteris submontana* and limestone fern *Gymnocarpium robertianum*. These pavements also support strong populations of a number of distinctive species, characteristic of the habitat in its lowland setting. These include dark-red helleborine *Epipactis atrorubens*, angular Solomon's-seal *Polygonatum odoratum*, dropwort *Filipendula vulgaris*, rustyback and fingered sedge *Carex digitata.*

Calcareous grasslands dominated by blue moor-grass *Sesleria caerulea* have an overall northern character but are also rich in southern lowland species. There is a wide range of structural variation associated with intensity of grazing and the presence of cliffs, screes, and limestone pavements on the margins of the grassland stands. There are important transitions to calcareous scrub (including juniper scrub) and ash-lime woodlands. Heather *Calluna vulgaris* is a frequent component of the grassland sward and where the soils are deeper a heathland community occurs in an intricate mosaic with the grassland.

Although close to the northern limit of lime distribution, the ash-dominated woodland around Morecambe Bay contains many patches of small-leaved lime, which survive sometimes with elm *Ulmus* spp., often along outcrop edges. There is a rich assemblage of rare species, including fingered sedge, wood fescue *Festuca altissima* and mezereon *Daphne mezereum*. The habitat type occurs here both on limestone pavements and on loose scree and steep slopes. Yew occurs both as dense groves and as scattered trees in the understorey of ash or ash-elm woodland. Yew woodland here represents the development of long-established stands on scree and rocky slopes. Where the soils are deeper, and more acidic, small stands of oak woodland occur often with a heather dominated understory.

Hawes Water is a lowland lake on a predominantly Carboniferous limestone foundation, with a substrate of deep lacustrine shell-marl (remains of shells of lake-dwelling animals). The water is highly calcareous and the lake is fed by springs within it. This site is considered to be the best example of a lowland lake with stoneworts *Chara* spp. in England, owing to the clarity, low nutrient status and high calcium content of its water. The rare rugged stonewort *Chara rudis* and scarce species *C. aspera*, *C. hispida* and *C. pedunculata* occur here. The lake is fringed by a belt of mixed fen. This includes areas of calcareous fen dominated by great fen sedge *Cladium mariscus*, often occurring in single species stands.

Gait Barrows supports strong populations of the narrow-mouthed whorl snail *Vertigo angustior* on the mossy clint (the limestone blocks which make up pavements) tops of limestone pavements at transitions to woodland, an unusual habitat for the species.

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:

- 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)
- *Juniperus communis* formations on heaths or calcareous grasslands. (Juniper on heaths or calcareous grasslands)
- Limestone pavements*
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles. (Western acidic oak woodland)
- Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*). (Dry grasslands and scrublands on chalk or limestone)
- *Taxus baccata* woods of the British Isles. (Yew-dominated woodland)*
- *Tilio-Acerion* forests of slopes, screes and ravines. (Mixed woodland on base-rich soils associated with rocky slopes)*

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:

- Narrow-mouthed whorl snail *Vertigo angustior*

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: UK0014777
Date of registration: 14 June 2005
Signed: Trevor Salmon
On behalf of the Secretary of State for Environment, Food and Rural Affairs