

SITE NOTIFIED TO THE SECRETARY OF STATE ON 29 MAY 1987

COUNTY: PEAK DISTRICT, DERBYSHIRE      SITE NAME: LATHKILL  
DALE

DISTRICT: DERBYSHIRE DALES      SITE REF: 15 WLB

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 as amended. Major part of site National Nature Reserve (NNR) declared under Section 19 of the National Parks and Access to the Countryside Act 1949.

Local Planning Authority: PEAK PARK JOINT PLANNING BOARD, Derbyshire Dales District Council

National Grid Reference: SK 187658      Area: 272.1 (ha.) 672.3 (ac.)

Ordnance Survey Sheet 1:50,000: 119      1:10,000: SK 16 NE, SE,  
SK 26 NW, SW

Date Notified (Under 1949 Act): 1954      Date of Last Revision: 1972

Date Notified (under 1981 Act): 1987      Date of Last Revision: –

Other Information:  
Site boundary alteration (extension).

Description and Reasons for Notification:

The Carboniferous Limestone massif of the Peak District is one of the most important in Britain, lying in latitude and altitude between the Mendips and the Craven area of Yorkshire. The limestone is cut by valleys, the 'dales', which expose areas of high geological interest and support a wide range of wildlife habitats, particularly woodland, scrub and grassland.

Those areas of woodland that are regarded as being oldest are dominated by ash *Fraxinus excelsior* and wych elm *Ulmus glabra*. The best examples of this type of woodland in Britain are found in the Peak District and the Mendips. Growing on north and north west facing slopes, these woodlands are late-leafing and cast a light shade in spring, thus supporting a very rich shrub and ground flora which in places is dominated by bryophytes.

Some dales contain a particularly open type of hazel *Corylus avellana* scrub (described as 'retrogressive') which occurs on very poor soils but has an exceptionally rich flora.

A wide range of grassland occurs in the dales, varying according to the soil, aspect and intensity and type of grazing. The extensive calcareous dale-side grasslands are generally dominated by meadow oat-grass *Avenula pratense* and glaucous sedge *Carex flacca* with a very rich flora.

Other habitats in the dales include rock outcrops and scree and in several dales, a series of stages in scree colonisation by plants can be found.

The great majority of the dales are dry but a few have streams on the surface, some of which are present only in winter. In some areas the streams are fed by lime-rich springs.

The steep-sided valley of Lathkill Dale lies 5 km south of Bakewell. Running for some 5 km west-east between Monyash and Alport it exhibits the contrast between vegetation of north and south facing slopes more clearly than any of the other limestone dales. It contains examples of a very wide range of habitats found in the Dales, including ancient broadleaved woodland, mixed scrub, calcareous and acidic grasslands, scree and rock-outcrop communities. The dale and adjacent areas are of geological importance for the karst landscape features, caves and stratigraphy of early Carboniferous (Dinantian) rocks. Historically, land on the southern side was monastic and would have been subject to more regulated land management. This may have been important for the survival of the ancient woodland. During the last 20 years the dale has been used for research on microclimate and, natural grassland productivity.

### Biology

The calcareous ash/wych elm woodlands of Meadow Place Wood are ancient woodlands on a very steep north facing slope. They are dominated by ash and elm, with field maple *Acer campestre* and rowan *Sorbus aucuparia*. The understorey is dominated by hazel with considerable amounts of guelder rose *Viburnum opulus*, dogwood *Cornus sanguinea* and hawthorn *Crataegus monogyna* together with a small population of the rare native shrub mezereon *Daphne mezereum*. The ground flora is particularly rich, and is dominated by dog's mercury *Mercurialis perennis*, tufted hair-grass *Deschampsia cespitosa* or bryophytes; and includes many rare and uncommon species such as lily-of-the-valley *Convallaria majalis*, yellow star-of-Bethlehem *Gagea lutea*, bird's-nest orchid *Neottia nidus-avis* and green hellebore *Helleborus viridis*.

The wide range of grasslands, is particularly influenced by aspect. On the warmer and drier south-facing slopes, the most species-rich swards are the well-grazed dry calcareous grasslands characterised by meadow oat-grass and glaucous sedge with common rock-rose *Helianthemum nummularium*, salad burnet *Sanguisorba minor*, wild thyme *Thymus praecox* and a wide range of annual species. In less well-grazed areas, tall grasses and herbs such as false oat-grass *Arrhenatherum elatius* and common knapweed *Centaurea nigra* are dominant, with marjoram *Origanum vulgare*, wild basil *Clinopodium vulgare* and field scabious *Knautia arvensis*.

With little grazing on north-facing slopes, a moist tall herb/grass community has developed with abundant meadowsweet *Filipendula ulmaria*, crosswort *Galium cruciata*, dog's mercury, common valerian *Valeriana officinalis* and burnet saxifrage *Pimpinella saxifraga*. In the upper dale this grassland supports a large population of the nationally rare Jacob's-ladder *Polemonium caeruleum*.

At the top of the valley sides an acidic grassland has developed consisting of wavy hair-grass *Deschampsia flexuosa* with heath bedstraw *Galium saxatile*, bitter-vetch *Lathyrus montanus* and occasionally, dwarf-shrub heath.

Limestone scree communities are well represented, with examples of colonisation by false oat-grass *Arrhenatherum elatius*, herb-robert *Geranium robertianum* and mouse-ear hawkweed *Hieracium pilosella*. The rare red hemp-nettle *Galeopsis angustifolia* is also present in this community. Ash is important in later stages of scree colonisation and dog's mercury is present as an anomalous component of this community.

Rock outcrops are colonised typically by early flowering species such as rue-leaved saxifrage *Saxifraga tridactylites*, corn salad (both *Valerianella locusta* and *V. carinata*) and by a number of the smaller ferns, including rustyback *Ceterach officinarum*.

Both limestone rock outcrops and tree trunks support one of the most important lichen floras in the region, which has particular interest because the differing aspects and inclinations of crags make this an ideal site to study factors affecting lichen colonisation and development.

Although the limestone dales of Derbyshire have no particularly characteristic birds, the richness of food resources is sufficient to support some of the most dense passerine bird breeding populations known in the area.

Butterflies are particularly abundant, with very large numbers of orange tip *Anthocaris cardamines* in the spring. There are small colonies of dark green fritillary *Argynnis aglaja* and green hairstreak *Callophrys rubi* later in the year. The northern brown argus *Aricia artaxerxes* is present on the grazed calcareous grassland and is here at the southern edge of its range in Britain.

A large number of moths have been recorded among which are the nationally rare barred carpet *Perizoma teniata* and the locally rare triple-spotted pug *Eupithecia trisignaria*. Many other invertebrates have been recorded from Lathkill Dale including some that are nationally rare or local.

The River Lathkill is of particular interest because it is intermediate between the faster flowing streams on the Craven limestone and the chalk streams of southern England. It is famed for its clarity and purity and is unique amongst the rivers of the Dales since it rises in as well as flows through a limestone dale. The river has been considerably modified to enhance conditions for fishing and by lead mining activities but remains unpolluted. The invertebrate fauna includes not only upland species but also those found in lowland chalk streams, particularly caddis and stone flies.

### Geology

Three distinct types of geological interest occur within this site – limestone surface features (karst), caves and Carboniferous limestone geology. The caves and spectacular limestone dry valley system of Lathkill Dale occupy a unique position on the central limestone plateau of Derbyshire. Seasonal flow from springs occurs along part of the main river but the caves and river receive no external supply of drainage, appearing to rely solely on percolation and collection of rainfall from the plateau. The three detached caves are significant in terms of their size, and the sediments they contain provide valuable evidence of events which occurred during the Ice Age (Pleistocene), when (under tundra conditions) the caves and gorge were being formed. Tufa, precipitated from calcium carbonate in running water has formed excellent tufa screens in the river bed. The rocks exposed in Ricklow and Monyash Quarries afford sections through an outstanding example of a shelf developed reef, a limestone structure composed of and formed by marine organisms, and of great importance in the interpretation of the geological history of the Derbyshire area during early Carboniferous times, some 340 million years ago.