Notification date: 9 October 1987

COUNTY: DERBYSHIRE SITE NAME: CASTLETON

DISTRICT: HIGH PEAK SITE REF: 15 WKC

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

Local Planning Authority: PEAK PARK JOINT PLANNING BOARD, High Peak Borough Council

National Grid Reference: SK 120820 Area: 823.9 (ha.) 2035.9 (ac.)

Ordnance Survey Sheet 1:50,000: 110 1:10,000: SK 08 SE, SK 18 SW, SK 18 SE

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 & reduction). Site includes former site known as 'Eldon Hole, Eldon Hill'.

Description and Reasons for Notification:
This site is at the northernmost limit of the Carboniferous limestone in the Peak District at the Junction with the shales and sandstones of the Millstone Grit which outcrop at Mam Tor. The area extends for some 5 km between Castleton in the east to Perryfoot in the west and forms one of the most important sites in Britain for the earth sciences containing many features of geological and landform interest. These include the spectacular gorge of Winnats Pass, the largest natural entrance of any cave in Britain at Peak Cavern, and the impressive landslip features of Mam Tor. Underground, the area has some of the most important cave systems in Britain with more than 15 km of passages and a series of sinkholes, including the famous Eldon Hole. Parts of the area, most notably at Winnats Pass and Cave Dale are of special interest on account of their species-rich limestone grasslands and rock-ledge plant communities.

Geology
The bedrock of Castleton is Carboniferous in age, about 350 million years old, with a Carboniferous Limestone (of Dinantian age) forming the escarpment on the southern flank of the Hope Valley, including Treak Cliff and Winnats Pass. These limestones are themselves of geological importance, particularly for the fossil remains they contain, and provide a classic example of a fossil reef development showing the variation in sediments and fossil assemblages across the reef from shallow to deep water environments. The Carboniferous Limestone dips sharply away into Hope Valley and is overlain by shales and sandstones of the Millstone Grit Series (of Namurian age), which outcrop in the spectacular cliff of Mam Tor. Sedimentary structures in these outcrops have provided important evidence of the origin of the sandstone layers within the Namurian rocks of this region.

The limestone bedrock of the Treak Cliff area is famous for the occurrence of the multicoloured fluorite known as Blue John and for associated mineral deposits. In addition, the old quarry at Windy Knoll is of international importance for an exceptionally rare occurrence of bitumen deposits, formerly known as elaterite and regarded as unique in Britain.

Winnats Pass is a spectacular landscape feature, cutting the southern slope of the Hope Valley. It has a complex origin and is regarded as a nationally important site for karst landforms (formed by the solution of limestone bedrock). Cave Dale also represents an important example of karst landform, contrasting in form and origin with Winnats Pass.

Within the Castleton SSSI lies a complex suite of interconnecting cave systems, forming the largest karst drainage system in Derbyshire and including two major networks, Peak Cavern and Speedwell Cavern. The famous Mam Tor landslip is the best example of a large-scale rotational slip affecting hard rocks inland in England.

Biology

Within the site are a number of species-rich limestone grasslands. The steep, north-facing grasslands on the slopes of Winnats Pass and those in Cave Dale differ from other Derbyshire limestone grasslands since they are damp, bryophyte-rich swards over brown calcareous soils and generally dominated by yellow oat-grass *Trisetum flavescens* and sheep's fescue *Festuca ovina*. The nationally rare Jacob's ladder *Polemonium caeruleum* is abundant in several areas in Winnats Pass and is also a component of species-rich rock-ledge communities which include common valerian *Valeriana officinalis*, mossy saxifrage *Saxifraga hypnoides* and shining cranesbill *Geranium lucidum*. The local lesser meadow-rue *Thalictrum minus* is found in quantity on ledges in Cave Dale.

The grasslands of south facing slopes are more typical of other daleside swards with meadow oat-grass *Avenula pratensis* and crested hair-grass *Koeleria macrantha*. Although the majority of grasslands in the site have been agriculturally improved, interesting communities are found on rocky outcrops and where the soil is shallow. There are also extensive areas of acidic grassland such as around Mam Tor. The old mineral workings scattered throughout the site support special communities of plants such as the nationally restricted spring sandwort *Minuartia verna*, which are able to tolerate high concentrations of metals in the soil.