

SITE NOTIFIED TO THE SECRETARY OF STATE ON 30 MARCH 1992

COUNTY: DERBYSHIRE

SITE NAME: CALKE PARK

DISTRICT: SOUTH DERBYSHIRE

SITE REF: 15 WR8

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

Local Planning Authority: DERBYSHIRE COUNTY COUNCIL, South Derbyshire District Council

National Grid Reference: SK 365230

Area: 64.6 (ha.) 159.6 (ac.)

Ordnance Survey Sheet 1:50,000: 128

1:10,000: SK 32 SE

Date Notified (Under 1949 Act): –

Date of Last Revision: –

Date Notified (Under 1981 Act): 1992

Date of Last Revision: –

Other Information:

New site.

Description and Reasons for Notification:

Calke Park is situated some 10 km south of the edge of the City of Derby next to the village of Ticknall. The site encompasses the ancient deer park of the Calke Abbey Estate with its rich wood pasture which has concentrations of very large, old, stag-headed oak trees, as well as ancient limes and beeches. The exceptional deadwood invertebrate fauna of this site is dependent upon the conservation of these veteran trees and the future continuation of the wood pasture habitat. Wood pasture habitat is now rare and very scattered, being restricted to ancient parkland and former hunting forest where there has been an unbroken history of this open structured woodland over areas used for grazing. This habitat provides a link through time with the ancient forests of Britain and Europe and it is only these sites which now sustain the assemblages of invertebrates associated with the ancient forests. Calke Park is the most outstanding of a number of important sites for deadwood beetles in Derbyshire. Deadwood (Saproxyllic) invertebrates breed in small scale habitats in living, dying and dead wood of every description and state of decay. Together with specific fungi they form a complex system of successful nutrient breakdown and re-cycling. Trees need to be several hundred years old and preferably pollards to reach their full invertebrate potential. Oak *Quercus* spp., beech *Fagus sylvatica* and hornbeam *Carpinus betulus*, are potentially the most important tree species for deadwood invertebrates and Calke has all of these.

The dominant tree species at Calke is English oak *Quercus robur* with almost one thousand standing specimens, a few of these being over 400 years old and many being over 300 years old. Many of these are up to 6 m in girth and hollow or stag-headed. There are also specimens of beech, large-leaved lime *Tilia platyphyllos*, small-leaved lime *T. cordata*, ash *Fraxinus excelsior*, sweet-chestnut *Castanea sativa*, and horse-chestnut *Aesculus hippocastanum*, which are over 300 years old. The pollen of the abundant hawthorn *Crataegus monogyna* is of particular importance as a food source for many of the rare deadwood beetles which are recorded for the site. It is this plenitude of deadwood habitat which has existed continuously for many centuries, which supports the diverse and rare invertebrate fauna of the site.

Over 250 beetle (Coleoptera) species have been recorded from Calke Park after only limited survey. At least 8 of these species are included in the British Red Data

Book. Calke Park is therefore among the top ten British sites for deadwood beetles. Red Data Book species include *Cryptophagus labilis* and *Aeletes atomarius* which both live in the burrows of lesser stagbeetle *Dorcus parallelipipedus*; *Bibloporus minutus* which lives under the bark of rotten timber; *Enicmus rugosus* which lives in fungi in old trees; *Ernoporus caucasicus* which lives under the bark of dying elm; and *Cyanostolus aeneus* which occurs where sap is exuded at bark crevices of oak, elm and beech. Many of the recorded species are indicator species of ancient woodland, ie species which do not appear to colonise new sites, therefore indicating the continuity of ancient woodland habitat on this site.

The associated pasture around the trees of Calke Park is mostly unimproved acidic grassland dominated, by bent grass *Agrostis* spp. with large areas of scattered and dense bracken *Pteridium aquilinum*. The ground flora is of a more woodland character under the more dense stands of trees on the north side of the ponds, with soft-grass *Holcus mollis* and dog's mercury *Mercurialis perennis* as well as bracken and dense patches of bramble *Rubus fruticosus* and wild rose *Rosa* spp. Here there is an understorey in places dominated by hawthorn and hazel *Corylus avellana*. Towards the north of the site there is one large area of wet acidic pasture dominated by rushes *Juncus* spp. and sedges *Carex* spp. The whole Park is traversed by a steep-sided valley with a water course, dammed to create three large ponds with rich marginal vegetation and associated wetlands. The marginal vegetation is dominated by alder *Alnus glutinosa*, reed-grass *Glyceria maxima*, and lesser pond-sedge *Carex acutiformis* with a variety of other species including greater tussock-sedge *Carex paniculata* and lesser skullcap *Scutellaria galericulata*. The wetland habitats next to the ponds comprise fairly large areas of a variety of flowering plants, important as a source of nectar for invertebrates. Such species include angelica *Angelica sylvestris*, valerian *Valeriana officinalis* and hemp-agrimony *Eupatorium cannabinum*. These wetland and flowery habitats extend Calke Park's potential for maintaining a wide range of invertebrate species.

Many fly *Diptera* species indicative of ancient woodland require various stages of decaying deadwood habitat for their larval stage and a suitable warm sheltered habitat with plenty of flowering plants for their adult stage. The diverse habitats at Calke provide for a rich dipteran fauna: a good assemblage of hoverflies is present including the Red Data Book species *Mallota cimbiciformis* and *Psilota anthracina*, the latter previously known only from Windsor and the New Forest. Other notable species which are indicators of ancient woodland are present, including *Brachypalpoides lenta* which has a southern bias in distribution; *Didea fasciata* which has a northern bias; *Xylota sylvorum* which is associated with upland birch woodlands; the bumble-bee mimic *Criorhina berberina*; and *Chalcosyrphus nemorum* which is usually associated with wet woodland.

As a consequence of this diversity of habitats Calke Park is proving important for a wide range of other species. Over 20 species of butterfly are recorded which are associated with woodland and grassland, including abundant speckled wood *Pararge aegeria* and ringlet *Aphantopus hyperantus*, both of which are near the edge of their range here. The aquatic habitats support dragonflies and damselflies including the emperor dragonfly *Anax imperator* which is only very rarely recorded in Derbyshire. Breeding birds on the site include little grebe *Tachybaptus ruficollis*, tufted duck *Aythya fuligula*, and pochard *A. ferina*, all of which make use of the pond and reedbed habitat. Sparrowhawk *Accipiter nisus* and green *Picus viridis*, great spotted *Dendrocopos major* and lesser spotted *D. minor* woodpeckers nest in areas of the ancient trees.