

11.1 FUNGI, LICHENS AND LOWER PLANTS

Application (all guidelines)

The distribution of fungi, lichens and lower plants (mosses, liverworts, stoneworts and algae) in Derbyshire is less well known than that of flowering plants and ferns, and the species lists given below should be regarded as tentative. These lists include species recorded since 1950. Where known those species not recorded since 1987 are marked with an asterisk. Sites from which relevant records have been made post-1986 should be considered as the priority for assessment under the guidelines. Sites identified from pre-1987 records can also be included where the interest is thought likely to still occur. In both cases up to date information (within the last five years) will be required in order to identify if the interest still occurs. Furthermore an up to date survey (within the year) should confirm that the site still supports suitable habitat for the species in question.

Justification (all guidelines)

Although often inconspicuous and under-recorded the non-vascular flora of Britain is one of the richest in Europe. Derbyshire's industrial past had a significant and adverse affect on the diversity and distribution of non-vascular plants especially lichens, but atmospheric conditions are now significantly improved and some species are re-appearing.

11.1.1 Lichen Selection Guidelines

Sites that meet one or more of the following guidelines will be eligible for designation as a Wildlife Site.

Li 1 Any site which supports a population of lichen species listed in schedule 8 of the Wildlife and Countryside Act 1981 (as revised and amended) or in Red Data Books of Britain and Ireland: Lichens. Vol 1: Britain (Church et al, 1997)

Application

This guideline should be applied to any site with a population of one or more of these species. The lichen flora of Derbyshire does not currently include any listed under the Wildlife and Countryside Act 1981 (pers. com. Oliver Gilbert 2002). The three species listed below do however appear in the Red Data Book: -

Absconditella sphagnum

Lecidea commaculans

Peltigera ponojensis

At present these species have only been recorded in the Peak District National Park, but there is a possibility they could be found at locations outside the Park in the future. This is perhaps especially likely with the last species which is associated with lead spoil heaps.

Justification

These lichen species are the rarest and/or most threatened with extinction in the British Isles and Britain has a national and international responsibility to conserve them throughout their distribution.

Li2 Any site which supports a population of a lichen species that is either,

- a) nationally scarce in Britain or**
- b) threatened in Europe, but neither in Red Data Books of Britain and Ireland: Lichens. Volume 1: Britain nor ‘nationally scarce’, where such populations contribute significantly to the distribution pattern or the total population size of that species in Derbyshire.**

Application

All sites for lichens in the above categories are eligible. Consideration should be given to the relative size and extent of the population in relation to populations at other sites both within Derbyshire and nationally and to the contribution this makes to the geographical range of the species.

All ‘nationally scarce’ lichen species are listed by Hodgetts (1992). Species which are threatened in Europe have also been listed by Hodgetts based on Serusiaux (1989). Species falling into this category have as yet not been identified for Derbyshire.

Justification

Britain is particularly rich in lichens because of its geographical position in the path of the North Atlantic Drift. However, species that occur in 16 – 100 10km squares (inclusive) in Britain are considered to be Nationally scarce. There is a national responsibility for their conservation. Species threatened in Europe may be relatively widespread and abundant in Britain, but where a population contributes significantly to the distribution pattern or the total population size of that species in Derbyshire there is an international responsibility to conserve it.

The protection, maintenance and enhancement of the populations of these species in Derbyshire is vital for sustaining biological diversity throughout the British Isles. Sites where the species concerned has been recently deliberately introduced, excluding species recovery programmes should not normally be included.

Li3 Any site which supports a population of a lichen species recorded from 3 or fewer localities in Derbyshire.

Application

All sites for lichens in the above category should be considered. The following list is taken from 'Endangered Wildlife in Derbyshire' (Elkington et al 1996).

Absconditella sphagnum
Acarospora glaucocarpa
Amygdalaria pelobotryon
Arthonia punctiformis
Arthonia radiata
Arthopyrenia lapponina
Bacidia arceutina
Bacidia rubella
Bacidia viridescens
Baeomyces roseus
Buellia ocellata
Calicium glaucellum
Caloplaca arenaria
Caroplaca cerina
Candelariella xanthostigma
Chaenotheca brunneola
Chaenotheca stemonea
Chaenothecopsis cf. nigra
Cladonia arbuscula
Cladonia bellidiflora
Cladonia caespiticia
Cladonia digitata
Cladonia foliacea
Cladonia parasitica
Collema limosum
Collema polycarpon
Coriscium viride
Cornicularia normoerica
Dermatocarpon luridum
Farnoldia jurana
Fuscidea austera
Fuscidea kockiana
Graphis scripta
Hymenelia prevostii
Hypocenomyce caradicensis
Ionopsis epulotica
Lecania cuprea
Lecania inundata
Lecania rabenhorstii

Lecania sylvestris
Lecania pallida
Lecania piniperda
Lecidia commaculans
Lecidea diducens
Lecidea hypopta
Lecidea lactea
Lecidea pernigra
Lecidella elaeochroma
Lempholemma chalazanellum
Lempholemma myriococcum
Leptogium diffractum
Leptogium subtile
Leptogium teretiusculum
Micarea pycnidiophora
Mniacea jungermanniae
Mycoblastus alpinus
Ochrolechia frigida
Parmelia acetabulum
Parmelia conspersa
Parmelia elegantula
Parmelia exasperatula
Parmelia pastilifera
Parmeliopsis aleurites
Peltigera horizontalis
Peltigera ponojensis
Pertusaria pupillaris
Placynthium tantaleum
Polyblastia cruenta
Polysporina dubia
Porpidia hydrophila
Protoparmelia oleagnia
Psora decipiens
Ramalina fraxinea
Rinodina roboris
Sarcogyne privigna
Schaereria cinereorufa
Stereocaulon dactylophyllum
Stereocaulon vesuvianum var *symphycheilodes*
Strangospora moriformis
Thelidium pluvium
Umbilicaria deusta
Umbilicaria torrefacta
Usnea filipendula
Verrucaria caerulea
Verrucaria laetebrosa

Justification

This list includes species which may be common elsewhere in Britain, but are rare in Derbyshire mainly because of past industrial pollution although it is likely that a number are under-recorded. Small relict populations of such species survive only in those parts of the county which were remote from centres of pollution. Subject to further localities for these species being found they may be regarded as ‘endangered’ in a County context. The list was originally compiled by O. Gilbert and appears in full in ‘Endangered Wildlife in Derbyshire’ (Elkington et al, 1996).

Li4 Any site that supports a significant proportion of the Derbyshire population, or contributes significantly to the range in Derbyshire, of a lichen species that is recorded from more than 3 localities within the County, but which could be at risk because of very small populations, recent rapid decline, or habitat loss or change.

Application

All sites for lichens in the above category which are not covered elsewhere may be considered where they significantly extend the range of the species in Derbyshire, or support a significant proportion of the Derbyshire population of that species. There is currently insufficient information to provide a complete listing of these species.

Justification

Species included here whilst not immediately in danger of extinction in the County may, nevertheless, be at risk and could fall into the endangered category without adequate preventative measures.

Li5 Any site that supports an assemblage of lichen species that contributes significantly to the overall lichen flora of Derbyshire.

Application

There are currently no examples of sites that meet this selection guideline. However, further consultation and future surveys may identify suitable sites. Selection should be guided by local and national experts on Britain/Derbyshire’s lichen flora.

Justification

Assemblages of lichens may be representative of particular climatic gradients, habitat types or geology within Derbyshire and may either be highly representative or of restricted occurrence.

11.1.2 FUNGI

Application (all fungi guidelines)

The production of fruiting bodies, by means of which most fungi are identified, may be irregular and is influenced by many environmental factors. Moreover, the distribution of fungi in Derbyshire is imperfectly known in many cases, and species lists given below should be regarded as tentative. Whilst the general rule of post-1987 records only being eligible should be borne in mind, consideration may be given to sites where relevant records have been made between 1978 and 1986 where it appears that no gross habitat change has occurred which would have been likely to result in the loss of the species concerned.

Fungi Selection Guidelines

Sites that meet one or more of the following guidelines will be eligible for designation as a Wildlife Site.

Fu1 Any site which supports a population of fungi species listed under any of the following categories:

- a) a species listed in schedules 5 of the Wildlife and Countryside Act 1981 (as revised and amended)
 - b) a species listed on the British Red Data Books of Britain and Ireland
 - c) a species considered to be ‘nationally scarce’
 - d) a species for which Derbyshire is a stronghold within the region
 - e) a species which has three or fewer localities in the County
-

Application

This guideline should be applied to any site with a population of these species. For clarification of a species inclusion in this guideline reference should be made to the Derbyshire Red Data Book (Elkington ed, 1996) and also the County Fungi recorder for updated information.

The following fungi species are currently identified: -

Camarophyllus atropunctus
Cortinarius violaceus
Entoloma bloxhamii
Graddonia coracina
Hygrocybe calyptraeformis
Marasmius hudsonii
Mycena rubromarginata
Pseudocraterellus sinuosus
Ripartites metrodii
Russula carminea

Strobilomyces strobilaceus

Provisional species

Hygrocybe spadicea

Justification

These fungi species are the rarest and or most threatened with extinction in the British Isles. Consequently, the protection, maintenance and enhancement of the populations of these species in Derbyshire are vital for sustaining biological diversity throughout the British Isles.

Fu2 Areas of grassland that support a significant fungal assemblage for Derbyshire based on a CHEG score of C8 H17 E15 G? or greater.

Application

Any grassland site found to support a fungi flora that meets or exceeds the above CHEG score could be included under this guideline.

Determining a CHEG score.

To assess whether a particular area of grassland is important in terms of the number of grassland fungi species it supports the CHEG profile developed by Rotheroe (Rotheroe et al, 1996) can be used. The evaluation of grassland sites with fungal conservation value is based on the following four fungi groups: -

1. Clavarioid fungi - The Fairy Clubs.
2. Hygrocybes* - The Waxcaps.
3. Entolomas (sensu Noordeloos)[#] - The Pink Gills.
4. Geoglossaceae -The Earth Tongues. Please note the score for this group is currently undetermined.

* - including *Porpoloma* and *Dermoloma*.

- including *Leptonia* etc.

Each species from one of these groups counts towards a numerical score for each grassland site. This scoring system is known as the CHEG profile and takes it's name from the initials of the 4 groups of fungi listed above. It enables one to compare grassland sites for their relative conservation value.

A significant CHEG profile in terms of Derbyshire and Peak District grassland sites would be: -

C8 H17 E15 G? (The numerical value for *Geoglossum species* is currently undetermined).

Fu3 Areas of grassland that support a significant fungal assemblage including at least 8 of the species listed below, but have an overall CHEG score of < C8 H17 E15 G?

Application

All sites that support a grassland fungi assemblage that meets the above guideline are eligible. The guideline should be implemented in consultation with recognised fungi experts. The current list of species is set out below and has been compiled by N. Barden (pers com October 2002).

Rare or endangered Species of Semi-natural Grassland:

Clavaroid fungi the Fairy Clubs

Clavaria zollingeri

Clavulinopsis umbrinella

Hygrocybes the Waxcaps

Hygrocybe aurantiosplendens

Hygrocybe calyptriformis

Hygrocybe citrinovirens

Hygrocybe colmanniana

Hygrocybe flavipes

Hygrocybe fornicata

Hygrocybe helobia

Hygrocybe ingrata

Hygrocybe irrigata

Hygrocybe intermedia

Hygrocybe lacmus

Hygrocybe nitrata

Hygrocybe ovina

Hygrocybe punicea

Hygrocybe quieta

Hygrocybe spadicea

Hygrocybe splendidissima

Hygrocybe vitellina

Porpoloma metapodium

Entolomas the Pinkgills

Entoloma bloxamii

Entoloma incanum

Entoloma prunuloides

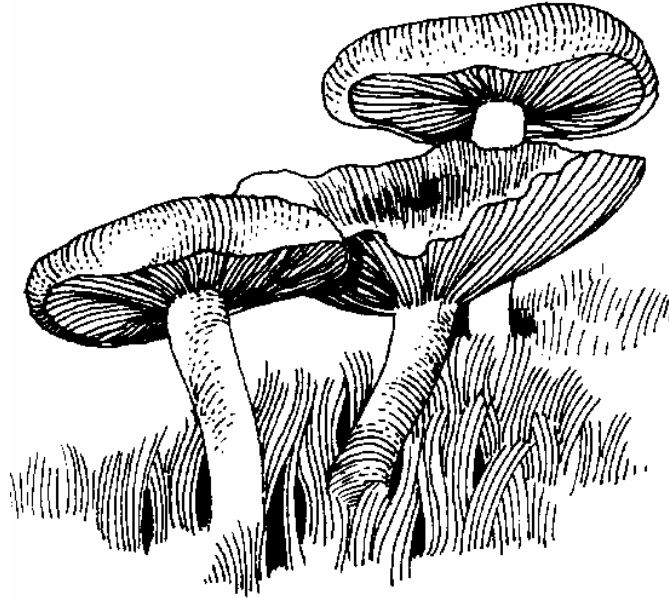
Geoglossaceae the Earth Clubs

All species except *Geoglossum fallax* (the most common).

Microglossum olivaceum

Justification

Grassland fungi are especially vulnerable to agricultural improvement and have declined dramatically in recent years. Although many grassland sites will be identified as Wildlife Sites because of their vascular plant interest steps should be taken to ensure sites important for fungi are also identified.



Clitocybe rivalosa