



Grassland Habitat Action Plan



Westwood Country Park

Photo: Paula Lightfoot

2011

1.0 Habitat description and Background

Sheffield covers over 36,000 hectares of varied land form, land use and vegetation from the western gritstone edges and tors at around 500 metres altitude extending to the east to low lying alluvial river valleys of the Coal Measures shales and sandstone. Characteristic of the area are ancient woodland, extensive grass and heather moors and a patchwork rural landscape of arable and pasture, enclosed by either dry stone walls or hedgerows.

Sheffield's present landscape and vegetation reflect the land use history and environmental factors such as climate, geology and geomorphology which have dictated land uses. The range of land uses combined with the major environmental factors have produced a number of distinct and characteristic habitat types for wildlife, this includes grassland.

Grassland sites in Sheffield tend to be the result of an interaction between human activity and the environment such as mowing, burning or the keeping of grazing animals and the cutting of feed for livestock. The habitat types of many grasslands can also be independent of the underlying geology due to the history of a site and the presence of imported and disturbed substrates. The influence of human activity can also extend to creating thin and/or nutrient poor soils or bringing these to the surface. Acidity and wetness or lack of these factors will tend to determine the type of grassland and grassland species which are present.

Of the sites noted for their floristic diversity those which have been subjected to regular management by traditional cutting and extensive rather than intensive grazing but without agricultural improvement (such as addition of fertiliser, use of herbicides or ploughing and re-seeding) tend to be of most interest. The most floristically rich grasslands tend to be long established and may be relicts of extensive grasslands from the historic rural landscape. Where these survive the biologically rich areas are usually small fragments in neglected meadows, or in parks or roadside verges. It is worthy of note in this respect that regular short mowing such as on amenity grassland does not necessarily rule out the possibility of the presence of a flora of botanical interest, particularly if no fertilisers or herbicides have been employed. Grassland sites may receive positive conservation management through Friends Groups, Conservation Bodies, Sheffield City Council or conservation minded landowners. Species lists for grassland sites may reflect an urban influence either through being impoverished due to urban isolation or extended through the presence of garden escapes and species deliberately introduced through positive conservation efforts such as plug planting.

In Sheffield, the predominant grassland types are lowland dry acid grassland, neutral dry, neutral wet grassland and wet acid grassland. These grassland habitat types seldom occur in isolation, instead occurring in mosaics with other grassland types and occasionally other habitat types such as heathland. Neutral dry lowland grasslands and upland hay meadow usually contain a high proportion of broad leaved herbaceous species relative to grasses. This

gives rise to a characteristically colourful wildflower sward in summer, heavily used by insects such as butterflies. These grasslands often have not been affected by changes in management or land use such as agricultural improvement.

Grasslands typically can be described by the following:

- They are variable plant communities. They may occur as smaller areas within an urban context or as more extensive ones in a rural or agricultural setting. They change visibly on an annual cycle and need active and appropriate management to maintain their biodiversity.
- They are often part of a historic landscape and can show evidence of ridge and furrow cultivation within fields, as well as their boundaries forming parts of ancient field systems, which also can be associated with species-rich hedgerows.
- They can contain a rich diversity of vascular plant species, supporting invertebrates, birds, fungal and lower plant communities, and providing further conservation interest as part of a mosaic of habitats.
- Neutral wet lowland grasslands may also be botanically species-rich but are characterised by seasonal flooding and a high water table. They are traditionally managed by taking a hay crop and aftermath grazing. Lowland dry acid grassland and purple moor-grass and rush pasture are relatively poor in botanical diversity when compared to the hay meadows but are very important for birds and invertebrates. Within urban areas a potential resource of species-rich grassland is that of roadside grass verges and formal amenity parkland.

The influence of past land use which may for example have disturbed soil profiles and/or imported and mixed soils can also typically have a strong influence on site characteristics. This in part contributes to the difficulties encountered when applying the National Vegetation Classification methodology to local grasslands.

The 1991 Sheffield Nature Conservation Strategy recognises that grassland communities are widespread and often fragmented and are variable in character and ecological value; and notes the following with respect to the distribution of grassland habitats:

- Unimproved dry grasslands tend to be found high in the Peak Park, Stocksbridge and the Northwest. Low in the east end, south east and Central areas.
- Unimproved wet grassland tends to be found high in the Peak Park, Stocksbridge, North West and South West, Low in the East End South East and Central areas.

There is therefore a spatial bias for the distribution of grassland sites and this is inevitably reflected in this Biodiversity Action Plan. However, it is worthy of

note that the spatial bias of Woodland, Wetland and Heathland sites does to some extent balance this.

2.0 Current Status

In the 1991 Sheffield Nature Conservation Strategy, all unimproved grasslands, wherever situated, were given status recognition by being designated as Sites of Scientific Interest¹. This was to reflect the fragmented and often poorly documented nature of unimproved grassland. Such grassland was identified as 'At Risk' Priority Habitat in the Nature Conservation Strategy.

Lowland dry acid grassland and neutral grassland are both UK Priority Habitats. Lowland hay meadows and mountain hay meadows are listed on Annex 1 of the EU Habitats Directive. Nationally, important neutral grassland sites have been designated as Sites of Special Scientific Interest and some fall within National Nature Reserves whilst acid grasslands may also form part of SSSIs. Sheffield's most species-rich and important grassland sites have been designated as Local Wildlife Sites. Although nationally the majority of designated sites are calcareous, the neutral and acid grasslands of Sheffield are nationally and locally rare.

Neutral unimproved grassland is now scarce in the UK, with only approximately 15,000 ha remaining in England and Wales. Little is known about the extent of acid grasslands but it is estimated that there are more than 1.2m ha within the uplands and up to 30,000 ha in the lowlands. Areas of wet grassland have also shown a significant decline in the last 60 years. Between 1930 and 1984 an estimated 97% of semi-natural lowland grassland in England and Wales was lost due to a number of factors. During the 1980's and 1990's losses continued at a rate of between 2% and 10% in various parts of England. The national decline is echoed locally and was highlighted by a Sheffield Wildlife Trust survey carried out between 1998-2001. This found an overall loss of 75.5% of unimproved grasslands within the Sheffield area since the South Yorkshire Phase One Survey had been conducted in 1980.

All unimproved and semi-improved grasslands in the Sheffield area are a local conservation priority and are Local Biodiversity Action Plan Priority Habitats in Sheffield. Areas of improved grassland with the potential for restoration are also a priority for conservation action.

3.0 Current factors causing loss or decline

- Fragmentation and loss of habitat affecting the extent and continuation of grassland and associated species.
- Changes in agricultural management including enrichment, use of herbicides and re-seeding.

¹ The term Sites of Scientific Interest has recently been replaced by the term Local Wildlife Sites.

- Changes and alteration to management regimes such as a general move away from hay cutting to agricultural improvement and taking a crop earlier in the year for silage production have had a damaging effect on grassland distribution and detrimental effects on associated species.
- Loss of grassland sites due to housing, industrial and recreational development.
- Neglect of grasslands leading to natural succession and progression towards scrub and woodland habitats.
- Inappropriate management in urban areas, with grasslands being intensively mowed, planted with non-native plants and 'tidied up'.
- Overgrazing and excessive ground disturbance caused by livestock, both agricultural and recreational.
- Inappropriate tree-planting schemes.

4.0 Current Action

4.1 Surveys

The 2002 survey of grasslands by the Sheffield Wildlife Trust has formed a useful baseline survey from which to assess the extent and quality of the grassland habitats. Further work is being identified to form the basis of on-going survey work. This includes:

- In 2009 a programme of baseline surveys for grasslands in Sheffield was initiated
- Surveying of potential Local Wildlife Sites and resurvey of existing sites.

However both of these areas require additional resourcing.

4.2 Conservation

- Sheffield's Biodiversity Action Partnership has formed a sub-group, the 'Grassland Working Group', comprising key partners with a remit of carrying out city-wide grassland management initiatives.
- Grassland management is currently being carried out on sites across Sheffield by Sheffield City Council, Sheffield Wildlife Trust, private landowners and key partners. Some of these sites are designated as Local Nature Reserves and/or Local Wildlife Sites. The role of Friends and Community Groups such as Gleadless Valley Wildlife Trust and Beauchief Environment Group to name but two, is often critical to the management of these sites.
- 6.5 ha of hay meadow has been created under an arable conversion project through a Countryside Stewardship agreement between 2002 and 2006 adjacent to the Moss Valley SSSI.

- Linleybank Meadow (formerly Beighton Tip) has had 21.60ha of neutral grassland created in phases since 2005. The area is now flourishing and supports a wide variety of birds including skylarks and grey partridges (UK BAP priority species).
- At a local level, where possible, sympathetic management of some urban and urban fringe sites is being implemented by Sheffield City Council and local wildlife groups to increase the conservation value of grasslands.

4.3 Public Awareness

Sheffield City Council's Ranger Service offer guided walks throughout many of Sheffield's grassland areas to help raise public awareness and increase education of natural history and conservation. There is also a programme of health walks which utilise the grassland resource for health benefits.

The Ranger Service is also actively involved in a programme of environmental education and activities for young children which take place in a variety of grassland habitats.

Awareness and training on grassland survey techniques is currently being facilitated via the Biodiversity Monitoring Officer with a number of local community groups on grassland sites throughout the city.

5.0 Scope of the updated Grasslands Habitat Action Plan

The grassland habitat action plan is confined to the Sheffield Local Planning Authority boundary. The parts of Sheffield which fall within the Peak District National Park are covered by a separate PDNP Biodiversity Action Plan.

When considering the updating of the Grasslands Habitat Action Plan the Sheffield Biodiversity Partnership and Grasslands Working Group identified that:

- It would not be possible to put together a comprehensive list of grassland sites in the time available to update the plan. It was determined that this could be included in the aims and objectives of the updated plan and that instead the updated plan could aim to identify the priority sites for retaining, enhancing or creating grassland habitat.
- That the plan should include all grasslands types together and that for example, acid and neutral grassland would not be covered under separate headings or a separate plan.
- That wet/floodplain grassland would be dealt with under the Grasslands rather than a Wetland Habitat Action Plan.

6.0 Relationship to other Biodiversity Action Plan habitats and species

Grassland as a Biodiversity Action Plan Habitat is not just limited to the grass and wildflowers which, for example make up a meadow. A grassland site will

almost always include features such as dry stone walls, hedges, scrub, trees and water features such as flushes, ponds and streams. It is therefore necessary to consider all other features of interest which are present when looking at the management of a site with grassland interest.

The species which utilise a grassland site and its associated features should also be considered. These may include invertebrates, mammals, amphibians, reptiles and often birds normally associated with farmland or woodland, many of which have suffered serious population declines in recent years.

7.0 Objectives and targets

The table below outlines the actions which the Sheffield Biodiversity Partnership aims to deliver over the 5 year period 2012 - 2016. It is intended that the plan should however be a live document which should have a progress review at least once a year by the Sheffield Biodiversity Partnership and that for example, opportunities will be taken outside of those specifically outlined as and when these arise.

The actions are set out below as 7 objectives and targets which have been defined with an eye very much to implementation and delivery once the Habitat Plan has been adopted. The specifying of these targets has been informed by the identification of specific sites to which action should be focussed. These sites are outlined at annex 1 and have been selected in consultation with local experts and expert panels such as the Sheffield Grassland Working Group and Sheffield Biodiversity Partnership.

- | | |
|-------------|---|
| Objective 1 | Determine the extent and viability of the grassland habitats within the Sheffield BAP area. This should also include some assessment of their value for faunal, fungal and lower plant interest. The investigation of non-traditional habitat resources such as road verges should also not be ruled out in this respect. |
| Target 1 | Secure resources for and develop an on-going programme of grassland habitat assessment and evaluation. Aimed for by 2013. |
| Objective 2 | Maintain and increase the conservation value of existing grassland habitats through appropriate management and site protection. This also includes managing sites primarily for their bird, invertebrate or fungal interest as well as botanical diversity. |
| Target 2 | Increase the number of sites under Higher Level Stewardship Schemes by 10 by 2016. Increase the number of Local Nature Reserves with grassland habitats by 3 by 2016. |
| Objective 3 | Maintain the extent of the grassland habitat resource as currently identified. |
| Target 3 | Maintain 105 ha of grassland habitat in its current management as outlined in annex 1. N.B. this list of sites should be expected to increase during the lifetime of this plan through the actions outlined under targets 1, 4 and 7. |

- Objective 4 Increase the extent of the grassland habitat resource through the creation, enhancement and restoration of grassland sites.
- Target 4 Create 16 ha of grassland by 2016. Target sites are outlined in annex 1, although alternative opportunities will also be exploited as and when they present themselves.
- Restore and enhance 85 ha of grassland by 2016. Target sites are outlined in annex 1, although alternative opportunities will also be exploited as and when they present themselves.
- Objective 5 Link existing unimproved and semi-improved grasslands through restoration, enhancement and creation of grassland sites.
- Target 5 Create physical links between grasslands through the restoration and creation of 16 ha² of grassland by 2016. Target sites are outlined in annex 1, although alternative opportunities will also be exploited.
- Objective 6 Raise awareness of the importance of biodiversity and grassland sites.
- Target 6 Create participation opportunities for land managers, volunteers, 'friends of' groups, local residents and the wider public. Also provide publicity via events, leaflets and the website to raise awareness with the public and Sheffield City Council members and managers.
- Objective 7 Monitor the extent and quality of grassland habitats within the Sheffield BAP area.
- Target 7 Establish a clear, comprehensive grasslands monitoring scheme to follow up on baseline surveys by 2013.

Habitat Action Plan prepared and written by Michael Guy, Brian Armstrong and Paula Lightfoot of Sheffield City Council Ecology Service.

² Figure taken from table at annex 1.

References

Sheffield Grassland Biodiversity Action Plan 2002.
Sheffield Nature Conservation strategy 1991.
JNCC list of UK Priority Species and Habitats.
UK Grassland Biodiversity Action Plans

With thanks to:

Sheffield Biodiversity Partnership and Grasslands Working Group
Sheffield City Council Ecology Service
Sheffield City Council GIS team
Sheffield City Council Parks and Countryside Service
The Sorby Natural History Society
Sheffield Wildlife Trust
Gleadless Valley Wildlife Trust
South Yorkshire Biodiversity Co-ordinator
University of Sheffield
Sheffield Hallam University
Natural England
Forestry Commission
Sheffield Bird Study Group