Rotherham Biodiversity Action Plan 2012
Grassland Habitat Action Plan

Contents

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List of Habitats Included

National Priority Habitats:

- Lowland dry acid grassland
- Lowland calcareous grassland
- Lowland meadows (neutral grassland)
- Lowland heathland
- Arable field margins

Habitat Descriptions

Grassland and heathland habitats are often found in mosaics that reflect small but significant changes in soil types and depths, hydrology and management activity. In Rotherham heathland in particular is difficult to separate from grassland as it is often found in small or frequent patches throughout a predominantly grassland site. The following descriptions present the key characteristics of the individual priority habitats but the vast majority of grassland sites in Rotherham will contain more than one priority grassland habitat type and will demonstrate a transitional range reflecting the ground conditions.

Lowland Acid Grassland

Lowland acid grassland occurs on nutrient-poor, generally free-draining soils with pH ranging from 4 to 5.5 overlying acid rocks or superficial deposits such as sands and gravels. Definition of lowland acid grassland is problematical, but here it is defined as both enclosed and unenclosed acid grassland throughout the UK lowlands (normally below c. 300m). It covers all acid grassland managed in functional enclosures and it often occurs as an integral part of lowland dwarf shrub-heath mosaics and locally in parklands where it is managed as grazing pasture. It is primarily found within the Coal Measures Natural Area but, unusually, it also occurs on areas of overlying Permian Marl within the Southern Magnesian Limestone Natural Area.

Species-richness and abundance vary tremendously depending on community type and locality and can range from less than five species to over 25 species per m^2. Heath bedstraw *Galium saxatile,* sheep's-fescue *Festuca ovina*, common bent *Agrostis capillaris*, sheep's sorrel *Rumex acetosella*, wavy hair-grass *Deschampsia flexuosa*, and tormentil *Potentilla erecta* are frequent in Rotherham sites. Dwarf shrubs such as heather *Calluna vulgaris* and bilberry *Vaccinium myrtillus* also occur but at low abundance.

Acid grasslands can have a high cover of bryophytes and, in particular, parched acid grassland can be rich in invertebrates. Many of the invertebrates that occur in acid grassland are specialists that do not occur in other types of grassland. The open parched acid grasslands on sandy soils, in particular, can support a considerable number of ground-dwelling and burrowing invertebrates such as solitary bees and wasps[1].

In terms of the National Vegetation Classification (NVC) it includes the *Festuca ovina-Agrostis capillaris-Rumex acetosella* grassland (U1), *Deschampsia flexuosa* grassland (U2) and *Festuca ovina-Agrostis capillaris-Galium saxatile* (U4) NVC grassland plant communities.

Lowland Calcareous Grassland

Calcareous grassland in Rotherham is generally limited to the Magnesian Limestone ridge of the Southern Magnesian Limestone Natural Area that runs north to south covering the eastern half of the Borough. The Magnesian Limestone grassland that forms on the well-drained and thin, base-rich soils is considered to be rare and there are probably only a few hundred hectares in England. This is in addition to the fact that it supports a range of grasses, herbs and animals not found on other grasslands.

The definition of calcareous grasslands covers a range of plant communities in which lime-loving plants are characteristic. The two most common grasses are tor-grass *Brachypodium pinnatum* and upright brome *Bromus erectus*. Lime-loving forbes include carline thistle *Carlina vulgaris* and dwarf thistle *Cirsium acaule* on the northern limit of its range; as well as salad burnet *Sanguisorba minor*, cowslip *Primula veris*, small scabious *Scabiosa columbaria*, greater knapweed *Centaurea scabiosa*, yellow-wort *Blackstonia perfoliata* and common centaury *Centaurium erythraea*. Autumn lady's-tresses *Spiranthes spiralis*, pale St. John's-wort *Hypericum montanum*, spring-sedge *Carex caryophyllea* and grass-of-parnassus *Parnassia palustris* are all

grassland plants of particular interest and rarity. A number of birds and other animals are associated with Rotherham's calcareous grassland sites including Green Woodpecker, Hare, Grass Snake and a number of nationally notable invertebrates including the Glow-worm.

NVC plant communities include *Festuca ovina-Avenula pratensis* grassland (CG2), *Bromus erectus* grassland (CG3), *Brachypodium pinnatum* grassland (CG4) and *Bromus erectus-Brachypodium pinnatum* grassland (CG5) communities.

Lowland (Meadow) Neutral Grassland

Lowland neutral grasslands include lowland meadows and pastures with low-input nutrient regimes. Unimproved neutral grassland is not restricted to grasslands cut for hay but also occurs as pastures where livestock grazing is the main land-use. The use of particular fields for grazing pasture and hay cropping changes over time, but the characteristic plant community may persist with subtle changes in floristic composition. In non-agricultural settings, such grassland communities may be found in recreational sites, churchyards and roadside verges. Wet grassland can be found in floodplains, areas with impeded drainage and valley bottoms. In Rotherham, lowland neutral grassland is found across the Borough within the Coal Measures and Southern Magnesian Limestone Natural Areas

Characteristic species of the habitat include pepper saxifrage *Silaum silaus*, dyer's greenweed *Genista tinctoria* and adder's-tongue fern *Ophioglossum vulgatum*. Commoner characteristic species include yellow rattle *Rhinanthus minor*, pignut *Conopodium majus* and red clover *Trifolium pratense*. Lowland meadows and pastures are important habitats for skylark and a number of other farmland birds, notably corncrake which has experienced a major range contraction across the UK.

In terms of NVC plant communities, the range of neutral grassland within Rotherham includes the MG1 *Arrhenetherum elatius* grasslands, MG4 *Alopecurus pratensis-Sanguisorba officinalis* grassland, MG5 *Cynosaurus cristatus-Centaurea nigra* grassland, MG6 *Lolium perenne-Cynosaurus cristatus* grassland and MG9 *Holcus lanatus-Deschampsia caespitosa* grassland.

Lowland Heathland

Lowland heathland habitat is described as a broadly open landscape on impoverished, acidic mineral and shallow peat soil in which dwarf shrubs, particularly heathers, are prominent. In terms of distinguishing between lowland heathland and genuine acid grassland, less than 25% dwarf shrub cover should be assessed as grassland, over 25% as heathland. It is a habitat of international importance and is found below 300m in altitude on acid soils with low soil nutrients, although it can occur on more basic soils with herbs commonly associated with calcareous grassland.

Areas of heathland in good condition should consist of an ericaceous layer of varying heights and structures, plus some or all of the following additional features, depending on environmental and/or management conditions; scattered and clumped trees and scrub; bracken; areas of bare ground; areas of acid grassland; lichens; gorse; wet heaths, bogs and open waters. Lowland heathland is a dynamic habitat which undergoes significant changes in different successional stages, from bare ground (e.g. after burning or tree clearing) and grassy stages, to mature, dense heath.

Although it is by nature a relatively species-poor habitat, lowland heath is often associated with birds, reptiles, invertebrates, bryophytes and lichens which add to the importance of the habitat and are important indicators of habitat quality.

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Lowland heath is a rare habitat in Rotherham, only occurring in small, isolated patches and often in mosaics of woodland, flushes and acid grassland. The NVC communities associated with lowland heath in Rotherham include H8, H9 and H1.

Arable Field Margins

Arable field margins are herbaceous strips or blocks around arable fields that have some level of permanence and which are managed specifically to provide benefits for wildlife. The arable field must be in a crop rotation which includes an arable crop, even if in certain years the field is in temporary grass, set-aside or fallow. Arable field margins are usually sited on the outer 2-12m margin of the arable field, although when planted as blocks they occasionally extend further into the field centre. In general terms, the physical limits of the arable field margin priority habitat are defined by the extent of any management undertaken specifically to benefit wildlife. Areas of this priority habitat exclude any boundary feature,

although if this is a 'living' or natural boundary, e.g. hedgerow or ditch, it may be considered as a priority habitat in its own right. The extent of a living boundary includes any herbaceous vegetation within 2m measured from the centre of the feature; beyond this 2m strip and up to the area of cultivated land is the arable field margin.

The following margin types are included:

- Cultivated, low-input margins. These are areas within arable fields that are cultivated periodically, usually annually or biennially, but are not sprayed with spring/summer insecticides and not normally sprayed with herbicides (except for the control of injurious weeds or problem grasses such as creeping thistle, black grass, sterile brome or wild oat). Cultivated, low-input margins include conservation headlands and land managed specifically to create habitat for annual arable plants.
- Margins sown to provide seed for wild birds. These are margins or blocks sown with plants that are allowed to set seed and which remain in place over the winter. They may be sown with cereals and/or small-seeded broad-leaved plants or grasses but areas sown with maize are excluded as they are of lower value for wild birds.
- Margins sown with wild flowers or agricultural legumes and managed to allow flowering to provide pollen and nectar resources for invertebrates.
- Margins providing permanent, grass strips with mixtures of tussocky and fine-leaved grasses, except areas of grass established as cross compliance requirements (see below). All other strips of grassland created by sowing or natural regeneration, such as field margins or beetle banks, are included.

The following margin types are excluded:

- Although set-aside, biomass and organic crops can have incidental benefits for wildlife in arable fields, these areas are not managed specifically for wildlife and are therefore excluded from the definition.
- Margins established as cross compliance requirements under the Single Payment Scheme (England and Scotland) are excluded. These margins, where present, would be included as part of the priority hedgerow habitat, where put in place to protect the hedgerow.
- Whole-field options such as over-wintered stubbles (with or without a fallow) and in-field options such as skylark plots are currently excluded from the definition of priority habitat, although their value for wildlife is acknowledged and their status will be reviewed in due course.

Arable field margins create optimum conditions for biodiversity providing nesting and feeding sites for numerous birds including Grey Partridge, Barn Owl and Corn Bunting. Many butterflies, grasshoppers and bugs are associated with these sites. Many polyphagous invertebrates (i.e. feeders on a range of foods) breed in crops, spending the winter on grassy banks and at the interface of crops, hedges and other boundary features. Even excluding soil borne invertebrates, micro-organisms and transients, some 2000 varieties of invertebrate are commonly found in arable areas. Field margins support invertebrates of ecological and aesthetic value and certain predators increase crop yields without the use of pesticides. The rare arable annual flowers that occur in the crop margin are even more dependent on arable field margins. Overall some 300 types of plant occur in arable fields.

Current Status

Lowland dry acid grassland has suffered a serious national decline during the 20th century as a result of agricultural intensification. Significant concentrations of acid grassland occur in the south and west of England and on the Welsh and England border. There are no national figures available for the rate of loss but it was estimated in 1998 that there was approximately 30,000 hectares in the UK, with 15,000 to 22,000 hectares found in England. An estimate is provided in the Yorkshire and Humber Biodiversity Delivery Plan (200 – 2015) of 17,704ha in the region, based on Natural England's habitat inventories and SSSI data held. [*Need to check this – it seems rather high*] In Rotherham the extent of lowland acid grassland is unknown although it is primarily found within the Coal Measures Natural Area.

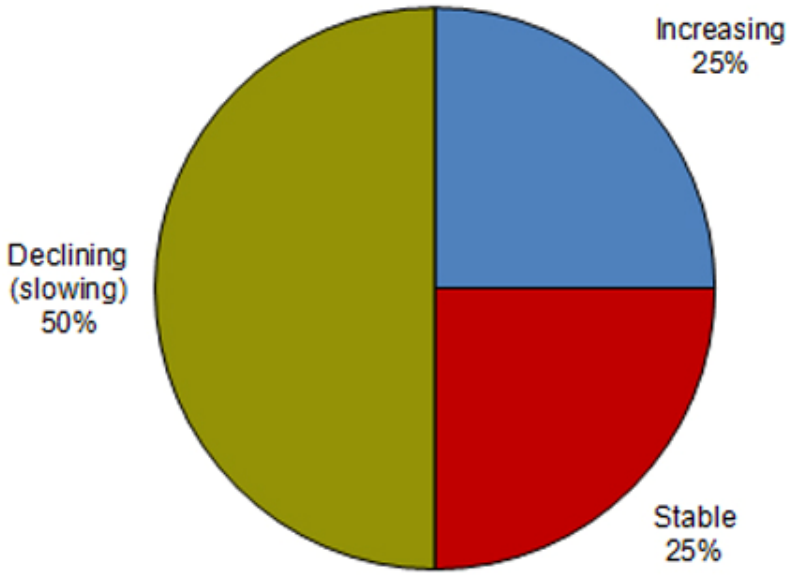
The national cover of **lowland calcareous grassland** has suffered a sharp decline in extent over the last 50 years. There are no comprehensive figures but current estimates put the amount of lowland calcareous grassland remaining in the United Kingdom at around 33,000 to 41,000ha. The bulk of the resource is found on chalk (25,000 to 32,000 ha), with major concentrations in Wiltshire, Dorset and the South Downs. The Yorkshire and Humber Biodiversity Delivery Plan has estimated 7,103ha based on Natural England's habitat inventories and SSSI data held. The majority of sites of significant size are found on chalk in the Wolds, Carboniferous Limestone in the Dales, Jurassic Limestone in the North York Moors and along the southern Magnesian Limestone ridge; the latter forming the eastern part of Rotherham. Within Rotherham a number of Sites of Special Scientific Interest (SSSIs) are notified for their calcareous grassland, including Lindrick Golf Course, Maltby Low Common (Pieces Bank) and Anston Stones Wood, but the full extent of this priority habitat is not known.

Nationally unimproved **neutral grassland** has undergone a decline in the 20th Century, almost entirely due to changing agricultural practice. It was estimated that by 1984 in lowland England and Wales, semi-natural grassland had declined by 97% over the previous 50 years to approximately 0.2 million hectares remaining with less than 15,000ha of that being considered species-rich. Losses are believed to have continued and the community of unimproved hay meadows and pastures is now highly localized, fragmented and in small stands over much of Britain. The Yorkshire and Humber Biodiversity Delivery Plan has estimated 2,217ha of lowland meadow in the region based on Natural England's habitat inventories and SSSI data held. There is no accurate figure relating to the total extent or location of unimproved neutral grassland in the Borough but it is known to be present across the Borough within the Coal Measures and Southern Magnesian Limestone Natural Areas.

Lowland heathland is a rare and threatened habitat. The UK has an important proportion (about 20%) of the international total of this habitat. In England only one sixth of the heathland present in 1800 now remains. The UK has some 58,000 ha of lowland heathland of which the largest proportion (55%) is found in England. The most significant areas for lowland heathland include the counties of Hampshire, Cornwall, Dorset, Surrey, Devon, Staffordshire, Suffolk, Norfolk, Pembrokeshire, West Glamorgan and West Gwynedd. In Yorkshire and Humber the Biodiversity Delivery Plan (200 – 2015) estimates there to be 5,374ha in the region, based on Natural England's habitat inventories and SSSI data held. In Rotherham heathland in particular is difficult to separate from grassland as it is often found in small or frequent patches throughout a predominantly grassland site; this makes measurement difficult although several key sites are known.

There are no precise data on the total extent of **arable field margins** in the UK; the Yorkshire and Humber Biodiversity Delivery Strategy gives an estimate of 849.6km.

In terms of current quality status the following diagram is taken from the Defra (2011) 'A Biodiversity Strategy for England Measuring Progress: 2010 Assessment' document and shows the assessed status of farmland priority habitats as at 2008.



Locally available mapping does not enable any useful estimate of priority habitat extent in Rotherham. Ongoing botanical survey and monitoring work should be used to map and measure priority habitat presence, particularly on key sites. An available measure of habitat quality can be taken from the Rotherham Local Wildlife Site system where, as at 30 March 2011, 45 local wildlife sites met the selection guidelines for at least one of the grassland or heathland criteria and, of these, 16 were classed as being in positive management, i.e. 35.6%, which is below the national picture. It is accepted that this is not a comprehensive assessment of the quality of Rotherham's grasslands but it is an indicator that could be used to measure future progress.

Key Factors and Influences

The following are considered to be the key issues affecting Rotherham's grasslands; they are not in any order of priority:

- Habitat fragmentation increases the risk of habitat degradation and associated (local) species extinction.
- Pressure from development (direct and indirect) including road building, housing development and landfill.
- Loss of habitat due to agricultural intensification by the use of fertilizers and pesticides, liming, reseeding or conversion to arable.
- Neglect or lack of management; without active management lowland grassland and heathland is quickly encroached by scrub and continual ecological succession with the subsequent loss of grass and heathland community interest, leading to the establishment of rank vegetation and loss of characteristic plants
- Inappropriate management including over-grazing and localized sward damage due to supplementary feeding.
- Inappropriate tree planting schemes, especially on areas that have historically escaped development or agricultural intensification due to location, topography etc.
- Lack of aftermath grazing following cutting, leading to habitat succession and a loss of species-richness.
- High management costs of small sites, sometimes with difficult terrain and low profitability.
- Inappropriate use of sites, including vandalism, makes appropriate management more difficult.
- Recreation pressures can bring about changes in the vegetative structure in selected areas resulting in soil erosion and compaction, nutrient enrichment etc.
- Uncontrolled burning, especially arson, can damage heathland.

Associated Habitats and Species

Lowland grasslands can be associated with any of the other priority habitats; habitat mosaics will depend on ground and soil conditions, hydrology and management activity.

The list provided in Appendix Two contains England Priority species that are associated with grassland habitats **and** that have been recorded in Rotherham. The list has been prepared by the Biodiversity Integration Groups, established to bring together habitat and associated species interests at an England level as part of Natural England led research.

Key Sites of Good Quality

There are 45 Local Wildlife Sites that meet the selection guidelines for at least one of the grassland or heathland criteria; these are listed in Appendix One. Of these sites 16 are listed as having evidence of positive management in the 2011 national indicator assessment and could be considered to be 'of good quality'

Sites designated for ecological interest, including SSSI and LWS form the basis of sites of known quality. Where these sites are believed to have grassland interest they should be monitored to guide management action and resources should be focused on delivering appropriate management levels.

A number of key grassland sites are known to have management agreements in place, including Maltby Commons (LNR, inc a SSSI, & LWS) and Keppel's Field (LNR & LWS), and a number of country parks with grassland and heathland habitats are due to have management plan reviews.

Sites of Concern

Grassland sites are of particular risk from lack of regular management action; they require significant and regular management to prevent ecological succession. Sites without agreement management are considered to be at risk. There are a number of known sites that have not received active management for a number of years and these should be prioritised for survey to support future management decisions, including resources needed.

The preparation of the Local Development Framework in Rotherham has involved the identification of land that is currently undeveloped but that could be used for residential and employment purposes. Some of the land is currently open grassland or is adjacent to or in close proximity to grassland and heathland sites. The following sites may be at risk of disturbance and reduction in quality from proposed development:

- Warren Vale LNR
- New Stubbin Colliery and Incline
- Dinnington Marsh
- Greenland Plantation
- Flatts Valley
- Treeton Dyke

Specific Actions for Key Associated Species

Appendix Two contains a list of all national priority species that have been recorded in Rotherham that are associated with priority grassland and heathland habitat types. The vast majority of species associated with these habitats will benefit from the delivery of habitat management activity.

Scale of Potential Biodiversity Action

Grassland habitats require some management intervention to maintain their composition and diversity; management action will be dependant on resources available and also on site specific considerations such as slope, public use, machinery availability and access. Long-established semi-natural grassland will be more diverse and stable but newly created sites based on naturalistic and priority habitat communities should be considered when making management decisions, which should be used to maintain their

existence and enhance their diversity. The majority of sites will be able to be assigned a suitable management option based on the following:

Minimal intervention – habitat management activities will be restricted to health and safety, access and reduction / prevention of invasive specie where these are highlighted as concerns. Survey and monitoring may occur to maintain environmental information. This may be appropriate for sites or areas of lesser habitat quality whose succession to scrub may increase the wider diversity of the local area. It should be noted that sites under this treatment will require considerable resources in future to restore their open habitat interest and this may not be possible if minimal intervention is a long-term decision or occurrence.

Grazing – livestock grazing is a preferred management activity, livestock breed and grazing periods will be site specific decisions but should be developed in line with conservation grazing recommendations, including the use of traditional breeds. Grazing is resource intensive, e.g. need for fencing and water, and should only be selected where livestock safety can be reasonably protected and monitored.

Cutting – cutting of grassland habitats with cuttings being removed, i.e. as a hay crop, maintains a slow, sustained reduction in nutrient levels that will benefit grassland habitat quality. Cutting times and frequencies can be site specific but should aim to enable indicative species to flower and seed prior to cutting. Aftermath grazing can be added where appropriate. On small sites where a mechanical hay crop is not possible it will be beneficial for hand cutting and collection of arisings, which can then be composted; this requires a high level of effort and commitment and should be directed to small sites of particular interest either for habitat quality or community value.

Road verges – priority habitats can be found and encouraged on road verges and other open habitats within the highway network. Cutting regimes on verges of interest should be discussed with RMBC Streetpride although highway safety will need to remain a primary objective.

Grassland within woodland sites – the creation and maintenance of glades, rides and open heathland and grassland habitats within woodlands will significantly increase the diversity and interest of sites but an ongoing management commitment will be needed.

Creation / expansion – new open habitats may be created, either as part of new developments, following demolition of structures, woodland clearance or arable reversion. Opportunities for the inclusion of priority habitat types should be maximised by allowing natural colonisation, use of local seed sources and seed mixes appropriate for the underlying conditions.

Species-specific actions – as arising; could involve micro-managing certain areas to benefit a particular lichen or, vascular plant and the creation and protection of hibernacula, rot piles, resting and nesting features. Butcher's broom, Star of Bethlehem and Autumn Ladies Tresses are examples of locally rare grassland plant species that have been historically recorded in Rotherham and which may benefit from micro-management.

Objectives and Targets

The England Biodiversity Strategy 2011 includes the priority to establish more coherent and resilient ecological networks on land that safeguard ecosystem services for the benefit of wildlife and people. In 2006 DEFRA set national habitat targets including the requirement to maintain the current extent and condition of dry acid grassland, lowland calcareous grassland, lowland meadows and lowland heathland, i.e. a no net loss of priority habitat position. Additional targets were set for the creation and expansion of priority habitat area for achievement by 2010 but there is no delivery data available.

The Yorkshire & Humber Regional Biodiversity Strategy lists the following agricultural sector objectives:

- Communicate more effectively with the farming community, particularly with regards to the scale and loss of biodiversity from agricultural land use, and about the need to work in partnership to restore the region's biodiversity resource and the ecosystem services it supports.
- Target resources, particularly environmental stewardship, to restoring and enhancing priority habitats and species, meeting the target to halt biodiversity loss by 2010 and halting the decline of farmland birds by 2020.
- Work with the farming community and other land managers to implement habitat restoration to create functional ecological networks at the strategic regional level. Develop and deliver biodiversity at a landscape scale through effective partnerships between the farming and biodiversity sectors.
- Support integrated rural development projects with biodiversity as a core component, for example eco-tourism initiatives, throughout the region that directly benefit local people and biodiversity.

The Yorkshire and Humber Biodiversity Delivery Plan sets the following targets:

	Yorkshire Humber Target	**Target still to be met 2010-2015**
Lowland Acidic Grassland (restore)	54ha	53ha
Lowland Acidic Grassland (expand)	10.4ha	8.4ha
Lowland meadows (restoration)	8.9ha	4.9ha
Lowland Meadows (expansion)	45.5ha	Not known
Lowland Calcareous Grassland (restore)	41.5ha	29ha
Lowland Calcareous Grassland (expansion)	50.25ha	40.25ha
Lowland heathland (expansion)	80.4ha	80.4ha

Restoration = Improve the condition of relict habitat so that it qualifies as BAP habitat.
Aim: to restore areas of degraded habitat or remnant elements to a state where it is considered to be BAP habitat in good condition. This leads to an expansion of the extent of the BAP habitat and ultimately an increase in the area in good condition.

Expansion: Increase the extent of the resource
Aim is to establish BAP habitat on land where it is not present and where no significant relicts of the BAP habitat currently exist. The targets should be set for the total amount of expansion to be achieved since plan publication.

In order to support the delivery of national and regional objectives and targets the following are the proposed objectives for the Rotherham Grassland Habitat Action Plan:

<u>Conserve the existing grassland and heathland resource by:</u>

- No loss of extent or reduction of quality of good quality priority grassland and heathland habitat
- Undertake an appropriate level of open habitat management on sites that are in the control of Rotherham BAP partner organisations
- Identify suitable sites for management via grazing

- Provide support and advice to other landowners to encourage suitable management action at sites not in our control

Expand the existing grassland and heathland resource by:

- Identifying new areas for open habitat creation; these can be permanent or temporary but should result in an overall increase in habitat of priority quality by 2025
- Agree priorities for the open habitat restoration of neglected sites
- Provision of buffer zones around existing good quality grasslands to reduce pressure and to allow these habitats to colonise and expand naturally
- Monitoring and managing scrub extent to maximise edge habitat and open grassland provision
- Increase the area of open grassland, and heathland where appropriate, in woodlands by 10% by 2025
- Initiate conservation management on identified road verges to increase biodiversity quality

Connect the grassland and heathland resource by:

- Identifying opportunities to support the creation or expansion of arable field margins and semi-natural open habitats within farmland
- Identify opportunities to link grassland and farmland to other semi-natural habitats, especially hedgerows and watercourses via hedgerow planting or new grassland creation including road verges and arable field margins
- Create and maintain rides into woodlands and between glades within woodlands

Promote the special interest of the grassland and heathland resource by:

- Providing a rolling programme of habitat monitoring within accessible grassland sites
- Producing and sharing management plans that have biodiversity action as a key principle
- Identify grassland and heathland sites that meet Local Wildlife Site selection criteria
- Ensure that grassland and heathland habitats and sites are fully recognised within development plans and decision making.

Rotherham Biodiversity Forum, and other partners, will prepare a prioritised programme of action that will guide delivery across Rotherham over the plan period, i.e. to 2020.

Appendix One – Local Wildlife Sites with Grassland Interest 2011

Site	Site Name	G1	G2	G3	G4	HE1	2011 +ve Management
4	Chesterfield Canal	F	T	F	F	F	
5	Nor Wood and Locks	F	T	F	F	F	
6	Rother Valley Country Park	F	T	F	F	F	Yes
8	Todwick Common	F	T	F	F	F	
10	Anston Stones Wood	T	T	F	F	F	
11	Lindrick Common	F	T	F	F	F	
13	Cross Lane Meadow	F	T	F	F	F	
16	Dinnington Colliery Tip	F	T	F	F	F	Yes
18	Dinnington Open Public Space	F	T	F	F	F	Yes
19	Langold Holt	F	T	F	F	F	
25	Little Moor	F	T	F	F	F	
26	Dinnington Marsh	F	T	F	F	F	
29	Ulley Country Park	F	T	F	F	T	Yes
32	Treeton Dyke – risk of scrub	F	T	F	F	F	Yes
33	Woodhouse Washlands	F	T	F	F	F	Yes
34	Catcliffe Flash LNR	F	T	F	F	F	
35	Old Flatts Farm Marsh	F	T	F	F	F	
36	Whiston Meadows	F	T	T	F	F	Yes
37	Canklow Wood	F	F	T	F	T	
39	Wickersley Gorse	F	T	T	F	F	Yes
44	Thurcroft Hall	F	T	F	F	F	
46	Carr Quarry	F	T	F	F	F	
48	Hooton Levitt (N) woodland	F	T	F	F	F	
49	Wood Lee Common	F	T	F	F	F	
50	Roche Abbey	F	T	F	F	F	Yes
55	Maltby Commons & Woodlands	F	T	T	F	F	Yes
57	Greenland Plantation	F	T	F	F	F	
63	Listerdale Wood	F	T	F	F	F	
68	Grange Park	T	T	T	F	F	Yes
69	Keppel's Field LNR	T	T	T	F	F	Yes
75	New Stubbin Colliery & Stubbin Incline	F	T	F	F	F	
76	Warren Vale Local Nature Reserve	F	T	F	F	F	
79	Thrybergh Tip	T	F	F	F	F	
80	Thrybergh Country Park	F	T	T	F	F	Yes
81	Ravenfield Park & Firsby Reservoirs	F	T	T	F	F	Yes
84	Kilnhurst Ings	F	T	F	F	F	Yes
85	Kilnhurst Agricultural Letting	F	T	F	F	F	
88	Flatts Valley	F	T	F	F	F	
97	Thurcroft Mineral Trail	F	T	F	F	F	
104	Anston Brook Walk	F	T	F	F	F	Yes
108	Sheffield & South Yorkshire Navigation	F	T	F	F	F	
113	Kilnhurst Riverside	F	T	F	F	F	
119	St Peters Church Letwell	F	T	F	F	F	
121	Bradgate Brickworks	F	F	T	F	F	
204	Tropical Butterfly House	F	T	F	F	F	

Rotherham Local Wildlife Site Selection – Criteria Summary

(For full details please see Rotherham Local Wildlife Site System: Part 2 Site Selection Guidelines for Rotherham 2010)

Grassland Selection Guidelines

Grassland sites will be eligible for selection as a Local Wildlife Site if they meet any of the following guidelines:

G1 Areas of semi-natural neutral, calcareous or acid grassland of at least 0.25 ha in size, or at least 50 metres in length if the site is a road verge, that have been identified as supporting any of the NVC communities listed below.

- MG4 *Alopecurus pratensis – Sanguisorba officinalis* grassland
- MG5 *Cynosurus cristatus- Centaurea nigra* grassland (all sub-communities)
- MG8 *Cynosurus cristatus – Caltha palustris* grassland.
- CG2 *Festuca ovina – Avenula pratensis* grassland (all sub-communities)
- CG3 *Bromus erectus* grassland.
- CG4 *Brachypodium pinnatum* grassland.
- CG5 *Bromus erectus– Brachypodium pinnatum* grassland.
- U1 *Festuca ovina – Agrostis capillaris- Rumex acetosella* grassland.
- U2 *Deschampsia flexuosa* grassland.
- U4 *Festuca ovina - Agrostis capillaries - Galium saxatile* grassland.

G2 Areas of semi-natural neutral or calcareous grassland of at least 0.25ha in size or 50 metres in length that score either:

- 10 or more from the indicative neutral grassland plant species list (Table 3), or
- 10 or more from the indicative calcareous grassland plant species list (Table 4), or
- 10 or more from the indicative wet grassland plant species list (Table 5).

G3 Areas of semi-natural lowland acid grassland of at least 0.25ha in size or 50m in length that score 8 or more from the indicative acid grassland plant species list (Table 6).

G4 Areas of semi-natural grassland of at least 0.5 ha in size and with a score of 20 or more from the neutral, wet, calcareous and acid grassland plant species list in combination.

Lowland Heathland Selection Guidelines

Heathland sites will be eligible for selection as a Local Wildlife Site if they meet the following guideline:

HE1 Any area of over 0.25ha in which the vegetation is dominated by assemblages of at least 25% dwarf shrub (*Calluna* / *Erica* spp., *Ulex galli* and/or *Vaccinium myrtillus*) cover.

Appendix Two - List of those England Priority Species that are associated with Grassland Priority Habitats and have been recorded in Rotherham

Scientific Name	Common name	Classification	Habitat
Bufo bufo	Common Toad	amphibian	Grasslands
Triturus cristatus	Great Crested Newt	amphibian	Grasslands
Bombus muscorum	Moss Carder-bee	bee	Grasslands
Bombus ruderarius	Red-shanked Carder-bee	bee	Grasslands
Alauda arvensis arvensis	Sky Lark	bird	Grasslands
Anser albifrons albifrons	European Greater White-fronted Goose	bird	Grasslands
Branta bernicla bernicla	Dark-bellied Brent Goose	bird	Grasslands
Burhinus oedicnemus oedicnemus	Stone-curlew	bird	Grasslands
Carduelis cannabina autochthona/cannabina	Linnet	bird	Grasslands
Carduelis flavirostris bensonorum/pipilans	Twite	bird	Grasslands
Circus cyaneus	Hen Harrier	bird	Grasslands
Crex crex	Corn Crake	bird	Grasslands
Cuculus canorus canorus	Common Cuckoo	bird	Grasslands
Cygnus columbianus bewickii	Bewick's Swan (Tundra Swan)	bird	Grasslands
Emberiza citrinella citrinella	Yellowhammer	bird	Grasslands
Emberiza schoeniclus schoeniclus	Reed Bunting	bird	Grasslands
Locustella naevia naevia	Grasshopper Warbler	bird	Grasslands
Lullula arborea arborea	Wood Lark	bird	Grasslands
Motacilla flava flavissima	Yellow Wagtail	bird	Grasslands
Numenius arquata arquata	Curlew	bird	Wet grassland
Passer montanus montanus	Tree Sparrow	bird	Grasslands
Perdix perdix perdix	Grey Partridge	bird	Grasslands
Sturnus vulgaris vulgaris	Starling	bird	Grasslands
Turdus philomelos clarkei	Song Thrush	bird	Grasslands
Vanellus vanellus	Lapwing	bird	Grasslands
Boloria euphrosyne	Pearl-bordered Fritillary	butterfly	Grasslands
Boloria selene	Small Pearl-bordered Fritillary	butterfly	Grasslands
Coenonympha pamphilus	Small Heath	butterfly	Grasslands
Cupido minimus	Small Blue	butterfly	Grasslands
Erynnis tages	Dingy Skipper	butterfly	Grasslands
Euphydryas aurinia	Marsh Fritillary	butterfly	Calcareous grassland
Hamearis lucina	Duke of Burgundy	butterfly	Calcareous grassland
Hipparchia semele	Grayling	butterfly	Grasslands
Lasiommata megera	Wall	butterfly	Grasslands
Leptidea sinapis	Wood White	butterfly	Grasslands
Plebejus argus	Silver-studded Blue	butterfly	Calcareous grassland
Pyrgus malvae	Grizzled Skipper	butterfly	Grasslands
Hygrocybe spadicea	Date-Coloured Waxcap	fungus (non lichenised)	Grasslands
Erinaceus europaeus	Hedgehog	mammal	Grasslands
Lepus europaeus	Brown Hare	mammal	Grasslands
Micromys minutus	Harvest Mouse	mammal	Grasslands
Pipistrellus pygmaeus	Soprano Pipistrelle	mammal	Grasslands
Omphiscola glabra	Mud pond snail	mollusc	Grasslands
Adscita statices	The Forester	moth	Grasslands
Heliophobus reticulata	Bordered Gothic	moth	Calcareous

			grassland
Noctua orbona	Lunar Yellow Underwing	moth	Grasslands
Rheumaptera hastata	Argent and sable	moth	Grasslands
Anguis fragilis	Slow-worm	reptile	Grasslands
Natrix natrix	Grass Snake	reptile	Grasslands
Vipera berus	Adder	reptile	Grasslands
Zootoca vivipara	Common Lizard	reptile	Grasslands
Adonis annua	Pheasants-eye	vascular plant	Calcareous grassland
Arabis glabra	Tower Mustard	vascular plant	Grasslands
Armeria maritima subsp. elongata	Tall Thrift	vascular plant	Grasslands
Campanula rapunculus	Rampion Bellflower	vascular plant	Grasslands
Carex ericetorum	Rare Spring-sedge	vascular plant	Grasslands
Chamaemelum nobile	Chamomile	vascular plant	Grasslands
Clinopodium acinos	Basil Thyme	vascular plant	Calcareous grassland
Crepis mollis	Northern Hawk`s-beard	vascular plant	Grasslands
Euphrasia pseudokerneri	Chalk Eyebright	vascular plant	Grasslands
Gentianella campestris	Field Gentian	vascular plant	Grasslands
Iberis amara	Wild Candytuft	vascular plant	Calcareous grassland
Mentha pulegium	Pennyroyal	vascular plant	Grasslands
Muscari neglectum	Grape-hyacinth	vascular plant	Grasslands
Oenanthe fistulosa	Tubular Water-dropwort	vascular plant	Grasslands
Ophrys insectifera	Fly Orchid	vascular plant	Grasslands
Orchis ustulata	Burnt Orchid	vascular plant	Calcareous grassland
Pulicaria vulgaris	Small Fleabane	vascular plant	Grasslands
Pulsatilla vulgaris	Pasqueflower	vascular plant	Grasslands
Scleranthus annuus	Annual Knawel	vascular plant	Grasslands
Veronica triphyllos	Fingered Speedwell	vascular plant	Grasslands

Scientific Name	**Common name**	**Classification**	**Habitat**
Andrena tarsata	a mining bee	bee	Heathland
Bombus muscorum	Moss Carder-bee	bee	Heathland
Bombus ruderarius	Red-shanked Carder-bee	bee	Heathland
Anthus trivialis trivialis	Tree Pipit	bird	Heathland
Burhinus oedicnemus oedicnemus	Stone-curlew	bird	Heathland
Caprimulgus europaeus europaeus	Nightjar	bird	Heathland
Carduelis cannabina autochthona/cannabina	Linnet	bird	Heathland
Circus cyaneus	Hen Harrier	bird	Heathland
Cuculus canorus canorus	Common Cuckoo	bird	Heathland
Emberiza citrinella citrinella	Yellowhammer	bird	Heathland
Locustella naevia naevia	Grasshopper Warbler	bird	Heathland
Lullula arborea arborea	Wood Lark	bird	Heathland
Numenius arquata arquata	Curlew	bird	Heathland
Boloria euphrosyne	Pearl-bordered Fritillary	butterfly	Heathland
Boloria selene	Small Pearl-bordered Fritillary	butterfly	Heathland
Coenonympha pamphilus	Small Heath	butterfly	Heathland
Erynnis tages	Dingy Skipper	butterfly	Heathland
Euphydryas aurinia	Marsh Fritillary	butterfly	Heathland
Hipparchia semele	Grayling	butterfly	Heathland
Plebejus argus	Silver-studded Blue	butterfly	Heathland
Adscita statices	The Forester	moth	Heathland
Cossus cossus	Goat Moth	moth	Heathland
Noctua orbona	Lunar Yellow Underwing	moth	Heathland
Rheumaptera hastata	Argent and sable	moth	Heathland

Xestia agathina	Heath Rustic	moth	Heathland
Xestia castanea	Neglected Rustic	moth	Heathland
Anguis fragilis	Slow-worm	reptile	Heathland
Vipera berus	Adder	reptile	Heathland
Zootoca vivipara	Common Lizard	reptile	Heathland
Arabis glabra	Tower Mustard	vascular plant	Heathland
Chamaemelum nobile	Chamomile	vascular plant	Heathland
Gentianella campestris	Field Gentian	vascular plant	Heathland
Mentha pulegium	Pennyroyal	vascular plant	Heathland
Scleranthus annuus	Annual Knawel	vascular plant	Heathland
Veronica triphyllos	Fingered Speedwell	vascular plant	Heathland

Scientific Name	**Common name**	**Classification**	**Habitat**
Bufo bufo	Common Toad	amphibian	Field Margins
Triturus cristatus	Great Crested Newt	amphibian	Field Margins
Bombus muscorum	Moss Carder-bee	bee	Field Margins
Bombus ruderarius	Red-shanked Carder-bee	bee	Field Margins
Alauda arvensis arvensis	Sky Lark	bird	Field Margins
Carduelis cannabina autochthona/cannabina	Linnet	bird	Field Margins
Circus cyaneus	Hen Harrier	bird	Field Margins
Emberiza citrinella citrinella	Yellowhammer	bird	Field Margins
Lullula arborea arborea	Wood Lark	bird	Field Margins
Passer domesticus domesticus	House Sparrow	bird	Field Margins
Passer montanus montanus	Tree Sparrow	bird	Field Margins
Perdix perdix perdix	Grey Partridge	bird	Field Margins
Streptopelia turtur turtur	Turtle Dove	bird	Field Margins
Turdus philomelos clarkei	Song Thrush	bird	Field Margins
Didymodon tomaculosus	Sausage Beard-moss	bryophyte	Field Margins
Erinaceus europaeus	Hedgehog	mammal	Field Margins
Lepus europaeus	Brown Hare	mammal	Field Margins
Micromys minutus	Harvest Mouse	mammal	Field Margins
Mustela putorius	Polecat	mammal	Field Margins
Anguis fragilis	Slow-worm	reptile	Field Margins
Natrix natrix	Grass Snake	reptile	Field Margins
Zootoca vivipara	Common Lizard	reptile	Field Margins
Adonis annua	Pheasants-eye	vascular plant	Field Margins
Centaurea cyanus	Cornflower	vascular plant	Field Margins
Chenopodium urbicum	Upright Goosefoot	vascular plant	Field Margins
Clinopodium acinos	Basil Thyme	vascular plant	Field Margins
Galeopsis angustifolia	Red Hemp-nettle	vascular plant	Field Margins
Galium tricornutum	Corn Cleavers	vascular plant	Field Margins
Iberis amara	Wild Candytuft	vascular plant	Field Margins
Minuartia hybrida	Fine-leaved Sandwort	vascular plant	Field Margins
Ranunculus arvensis	Corn Buttercup	vascular plant	Field Margins
Scandix pecten-veneris	Shepherd's Needle	vascular plant	Field Margins
Scleranthus annuus	Annual Knawel	vascular plant	Field Margins
Silene gallica	Small-flowered Catchfly	vascular plant	Field Margins
Torilis arvensis	Spreading Hedge Parsley	vascular plant	Field Margins
Veronica triphyllos	Fingered Speedwell	vascular plant	Field Margins

Notes: