Rotherham's Biodiversity Action Plan
Compiled by Ben McCarthy on behalf of Rotherham's Biodiversity Forum

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Acronyms

Rotherham Metropolitan Borough Council,
Green Spaces Unit,
3rd Floor Norfolk House,
Walker Place,
Rotherham S65 1AS
www.rotherham.gov.uk/graphics/Environment/
Countryside+and+Wildlife
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Protecting the variety of life around us is increasingly important, not just for the intrinsic worth of the plants and animals themselves, but for human needs. Biodiversity affects our quality of life aesthetically and spiritually, it boosts local economies and supports inward investment. Globally, there are many species upon which we depend for food, medicine and raw materials. In short, biodiversity ensures our survival.

Biodiversity is a key indicator of the sustainability of our actions. A healthy, diverse environment provides functional ecosystems that, for example, purify water and provide effective flood defences. Biodiversity is a crucial component of the quality of life for the communities that Rotherham Metropolitan Borough Council (RMBC) serves. The responsibility of the authority to provide community leadership to make sure of a better quality of life for everyone extends to ensuring that the activity of the authority, and its key role in developing local partnerships, contribute towards the conservation of biodiversity. Biodiversity is an essential component in the economic, social and environmental well-being of local communities.

RMBC has a unique perspective and opportunity to enhance biodiversity as it represents local communities that experience, enjoy and live with local wildlife. It is this interface between local communities and their understanding, involvement, protection and enhancement of local biodiversity that can significantly contribute to the achievement of the Council’s priorities and aspirations of a better quality of life for all.

Protecting and enhancing biodiversity will bring clear benefits to local people. Improving their quality of life with an improved physical environment to visit, live and work in. Increasing learning opportunities to improve their understanding and appreciation of local biodiversity. Improved opportunities to access, enjoy and study their local biodiversity. Improved opportunities to participate in the management of local biodiversity. Improved political and democratic accountability for actions taken to protect the local environment. Improved advice for individuals and landowners and managers on how to conserve and enhance local biodiversity. Improving the sustainability of local development. Improved opportunities to strengthen the local economy and work in partnership. Contributing towards best value of local authority services.

This Local Biodiversity Action Plan identifies a programme of activities to ensure the protection and enhancement of Rotherham’s important biodiversity. It is the result of the work of Rotherham’s Biodiversity Forum, a partnership of naturalists, landowners, conservationists and RMBC staff and identifies the conservation priorities for Rotherham. Part One sets the scene of biodiversity conservation in the UK and locally. Part Two describes in detail the identification of local priorities. Part Three contains the Habitat and Species Action Plans that identify threats and opportunities facing some of our most important biodiversity and sets out work programmes to halt their decline.

Additional work will be required to make sure appropriate mechanisms are in place to ensure the integration of biodiversity into the policies and programmes of key partners and to make sure that opportunities are grasped to make certain the sustainable development of Rotherham and the delivery of a better future for all.

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"No organism lives in isolation from other things and each has its own way of life which contributes to the balance of nature. The inter-dependence and successful functioning of all these parts is a key contributing factor to the healthiness of the planet as a whole. If we continue to pollute the atmosphere, contaminate land and water and degrade our ecosystems...then the planet will suffer accordingly. The totality of the problem is addressed by the Sustainable Development Strategy, but the harmonious and healthy functioning of all the organisms which constitute "life" is the concern of the Biodiversity Convention, and hence this Plan".

From: Biodiversity: The UK Action Plan, HMSO 1994

The production and implementation of this Local Biodiversity Action Plan reflects the considerable and continued effort of Rotherham's Biodiversity Forum and its members to safeguard the local environment and its wildlife. This work has resulted in approximately 25% of the UK's non-marine animals and plants being recorded in the Rotherham area. Indeed it is the recorded demise of once common wildlife that forms part of the rationale for this Local Biodiversity Action Plan. In addition to this, it has been produced because of local recognition of the importance of biodiverse. This includes the recognition that biodiversity matters because:

- It supports life itself;
- Ecosystems can be harvested for economic benefit providing food and raw materials;
- Biodiversity continues to provide important medicine for the eradication and cure of diseases;
- Biodiversity can provide indirect economic benefits for instance flood control or waste water systems;
- Biodiversity has an economic and social value for amenity and recreation;
- Biodiversity has aesthetic and spiritual value;
- Local people value local biodiversity and want it protected for future generations, and;
- We have a moral and ethical obligation to hand on to future generations an environment as rich as the one we inherited.

The Habitat and Species Action Plans set out agreed work programmes and include defendable and achievable targets for the conservation and enhancement of Rotherham's important biodiversity.

The implementation of the Local Biodiversity Action Plan (including Habitat and Species Action Plans) will be an ongoing process that will need continual development and careful monitoring and integration into other relevant plans and initiatives.

The conservation and enhancement of biodiversity is a crucial component of achieving sustainable development locally. The implementation of actions identified in this Local Biodiversity Action Plan will significantly contribute to raising the quality of life in Rotherham.
Biodiversity, or biological diversity, is the variety of life. It incorporates all elements of our living planet including genetic variation, species variation and ecosystem variation that has evolved over the last 3.5 billion years. This important link between habitats and species recognizes that nature is continually adjusting to environmental change and it is this change that constantly creates new habitats and the species associated with them.

These three aspects of biodiversity are fundamentally linked and form the intricate web of life that is all around us. This web underpins every aspect of our diverse and interdependent biosphere and includes humanity as but one part. The health of the planet, and our survival, is dependent on the successful functioning of all three aspects of biodiversity.

Although nature is dynamic and habitats and species are continually evolving recent decades have seen drastic changes to our global biodiversity resource. Global biological resources have dramatically declined and these losses include:

- A rapidly reducing global gene pool. Once lost this genetic resource can never be retrieved;
- Species extinction exceeding the development of new species; and;
- Ecosystems and habitats being lost and their quality being reduced.

The reasons for this catastrophic loss of biodiversity are complex but include:

- The loss and fragmentation of habitats;
- Increasing pollution of increasingly fragile ecosystems;
- Unsustainable harvesting of natural resources;
- The introduction of alien species.

These global trends are reflected in the UK where, since the 1900s, 7% of our dragonflies, 5% of our butterflies and more than 2% of our fish and mammals have become extinct. These losses are reflected in our own personal lives as once common animals and plants become increasingly rare. For example, birds such as the Song Thrush and Tree Sparrow which were common have experienced significant reductions in their local populations and distribution.

Biodiversity is our most precious resource. The Earth’s biological resources are vital to humanity’s economic and social development. They provide the very systems that support our existence on this planet and are global assets of tremendous value to both present and future generations. We simply cannot live without a planet rich with biodiversity - we must protect it now and in the future.

Our living planet is sustained by complex interactions of many natural systems and these mechanisms provide us with many of the essentials of life. For example, it is primarily the interaction of marine species that maintains our atmosphere and provides us with enough oxygen to breathe. Our floodplains and wetlands play an important role in reducing flood risk and purifying the water we drink. Small, seemingly unimportant fungi and soil micro-organisms play a vital role in keeping our woodlands alive by breaking down dead plant material and recycling nutrients for other species to use.
Biodiversity - Its economic Importance

Biodiversity supplies us with the raw materials for all our activities. Many species are directly used to provide food, materials for clothing and building, medicine etc. For example, drugs for treating heart disease are still derived from foxgloves. The lush vegetation that once thrived in South Yorkshire 350 million years ago eventually formed the coal that has been so economically important to the region. Charcoal from our woods fired the furnaces that established our local iron and latterly steel industries.

The planet’s biological resources have tremendous unknown potential. For instance, different crop varieties may be more resistant to new diseases or able to adapt to environmental change for example climate change and yet to be discovered plants may offer further advances in medicine. It is imperative we safeguard this potential for the future.

Biodiversity - our cultural heritage

The living environment is an important and integral part of our culture. Many of our ancient myths and traditions are based around our relationship with nature. For example, yew trees are still planted in churchyards to banish evil spirits and buttercups are still used to establish if people like butter! Many of our neighbourhoods are named after the local environment such as Killamarsh and Kings Wood, while local pubs are named after local wildlife including the Polecat and the Royal Oak. Children still play ‘conkers’ in the playground and we celebrate harvest festival. Our local environment is a living history book recording ancient field boundaries and hunting grounds and footpaths linking homes to work.

Biodiversity - its spiritual importance

A healthy, vibrant environment nourishes us spiritually and our contact with the natural world enriches all our lives. Rich and diverse habitats supporting an array of plants and animals are spectacular. For example, a flower rich meadow alive with the song of birds and busy with the buzzing of insects looks, smells, sounds and feels right. The ever increasing pressure we exert on our biodiversity - locally as well as globally - is forever diminishing our capacity to wonder and marvel at the world.

Biodiversity - safeguarding our future

Our biodiversity confers a stability on our world that we hardly comprehend and it is not known what our future needs will be. We are losing species and habitats that may be important in time to come. By protecting our biodiversity we offer ourselves greater opportunities for future economic development, future medical discoveries and adaptive responses to threats yet to be discovered.

Biodiversity - the moral imperative

We must not deprive our children of opportunities that may be required to meet their own needs by destroying our common environment. We have a moral and ethical obligation to hand on to subsequent generations an environment as rich as the one we inherited. Biodiversity is our most precious resource and the current global trend of environment destruction is one of our greatest tragedies.

SUSTAINABILITY

Widespread and increasing concern about the adverse impact of human activity on the planet led to a historic meeting of the World’s leaders in Rio de Janeiro in 1992. The United Nations (UN) Conference on the Environment and Development - the ‘Earth Summit’ - signalled the political recognition of the World’s nation states to the deteriorating global environment. Article 4 of the Rio Declaration succinctly summarizes the central message adopted at the Earth Summit:

“In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it’.

As a result of this meeting, global action on four interrelated principles was agreed.

1. The Convention on Biological Diversity - a commitment to safeguard the planet's biodiversity;
2. The framework Convention on Climate Change - intended to stabilize atmospheric ‘greenhouse gases’ at a level that will prevent dangerous interference with the global climate;
3. A Statement of Principles for the Sustainable Management of Forests, and;
4. Agenda 21 - an action plan for the 21st Century integrating human activity to ensure current development does not compromise the ability of future generations to meet their own needs.

The UN Convention on Biological Diversity’s objectives are ‘the conservation of biological diversity, the sustainable uses of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources’. The Convention is the first global, comprehensive agreement to address all aspects of biological diversity. It recognizes, for the first time, that the conservation of biodiversity is ‘a common concern of humankind’ and an integral part of the development process.

Biodiversity forms an integral part of all these agreed principles and it is clear that the future of our global environment is dependent on the full integration of environmental, social and economic factors. Rotherham’s Local Biodiversity Action Plan (LBAP) has sustainability at its core. By establishing effective partnerships with local groups and communities, environmental and conservation groups, landowners/ managers, businesses and statutory organizations a shared agenda is being established with clear objectives and shared responsibilities.

It is clear to see that the achievement of these principles requires action at all levels from global to local. As a signatory to the above agreements the UK Government published national responses which broadly identify mechanisms to achieve the agreed objectives. These interrelated policy documents are

1. Biodiversity: The UK Action Plan
2. Sustainable Development: The UK Strategy
3. Sustainable Forestry: The UK Programme
4. Climate Change: The UK Programme

The Government is developing a rolling programme of guidance and legislature to support their implementation.

In 1999 the UK Government published a national strategy identifying the main elements of sustainable development as social progress, protection of the environment, prudent use of natural resources and high and stable economic growth and employment. It explicitly recognized the need to reverse the decline in biodiversity acknowledging that biodiversity is a quality of life issue.

Acknowledging the importance of biodiversity as an indicator of quality of life and a key test of sustainable development, numerous biodiversity indicators have been included in the Government’s 'Quality of Life Counts’ including the populations of wild birds, trends in plant diversity and progress with biodiversity action plans.
UK BIODIVERSITY ACTION PLAN

The UK Government published its response to the Convention on Biological Diversity in 1994 with the UK Biodiversity Action Plan (UK BAP). The UK BAP sets out a vision that established the goals, principles and objectives for conserving biodiversity and these remain the cornerstone of current UK policy. The UK BAP Steering Group subsequently set out a long-term approach to achieving these goals. This approach described the UK’s biological resources and examined the threats and opportunities facing it. In addition to targeted Habitat and Species Action Plans (HAPs and SAPs), it set out as its broad objective to “conserve and enhance biological diversity within the UK and to contribute to the conservation of global biodiversity through all appropriate mechanisms.” It identified biodiversity as an indicator of sustainable development and how the sustainable use of natural resources could contribute to biodiversity.

In its millennium review, the UK Biodiversity Group recognized the progress achieved to date and highlights further progress is still required. Amongst these tasks is the need to further integrate biodiversity into policies and programmes as part of the overall objective of sustainable development and to encourage the expansion of Local Biodiversity Action Plan coverage to ensure that the fundamental changes necessary to achieve real progress are being made. In accordance with national guidance Rotherham’s LBAP aims to support the implementation of UK BAP locally.

ROTHERHAM’S LOCAL BIODIVERSITY ACTION PLAN

The Rotherham Biodiversity Forum was formed in 1997 to advance the conservation and enhancement of biodiversity in Rotherham. The Forum is made up of representatives from local community groups, local and regional environmental organizations, landowners and managers and statutory and non-statutory organizations. Rotherham’s LBAP is the result of sustained effort to promote the protection and enhancement of biodiversity as part of achieving a sustainable future for Rotherham. It is an on-going process that will need continual development and careful monitoring as well as integration into other relevant plans and initiatives.

Human activity has had a profound effect on our local biodiversity that has often resulted in habitat fragmentation, degradation and destruction. However, Rotherham still contains a rich and important diversity of semi-natural habitats including many identified by the UK Biodiversity Group as being of national conservation priority. In accordance with Government guidance, Rotherham’s LBAP aims to focus on these and habitats of local conservation concern. These biological assets significantly contribute towards raising the quality of life for Rotherham’s communities.

RMBC recognizes that the environment is a crucial cross-cutting theme that underpins the delivery of its 2020 Vision - a sustainable Rotherham for all. The adoption and integration of the actions identified in this LBAP into the work of RMBC will assist the authority in delivering its corporate priorities.

The Rotherham Local Biodiversity Action Plan will form:
+ An integral part of RMBC’s Unitary Development Plan and subsequent countryside policies and detailed area plans. The adoption and implementation of this LBAP will significantly contribute towards the core values of RMBC.
+ A component of the Community Strategy for the area. The environment and sustainability will be one of the key drivers underpinning the Community Strategy and will ensure that local economic and social progress is not achieved to the detriment of the environment.
+ A programme of action for inclusion in local and regional plans and/or external funding programmes.

OBJECTIVES

1. To maintain and enhance the biodiversity of Rotherham by;
   - protecting the natural populations and distribution of species;
   - protecting natural and semi-natural areas within which species can be maintained, and;
   - identifying, habitats for re-creation and species for reintroduction, where and if appropriate.
2. To involve local people and develop effective partnerships to ensure that programmes for biodiversity conservation are maintained in the long-term.
3. To contribute towards the conservation of UK and global biodiversity by integrating with national and international agreements.
4. To raise awareness of the need for biodiversity conservation in the local context.
5. To establish monitoring programmes to assess the effectiveness of the LBAP and contribute to the achievement of local and national targets.
6. To fully integrate biodiversity as a central tenet of development policies for the area to ensure the sustainable future of Rotherham and thereby contribute towards the Local Agenda 21 through the Community Strategy.
In order to achieve these objectives Rotherham’s LBAP will:

+ harness and co-ordinate the relevant skills and knowledge of local experts from the voluntary sector, statutory organizations, the local authority and landowners and managers;
+ use these skills and knowledge to develop Habitats and Species Action Plans (HAPs and SAPs) that set out agreed work programmes and include defendable and achievable targets for the conservation and enhancement of Rotherham’s important biodiversity;
+ set-up a rolling programme of monitoring and reviewing the implementation of the HAPs and SAPs;
+ support a programme of local research and monitoring of the local biodiversity resource;
+ contribute to Community Planning by representing the expressed priorities of local people, and;
+ develop further working partnerships to contribute towards achieving the aims and aspirations of the Community Strategy.

DEVELOPING PARTNERSHIPS

Involving local people to protect their environment is a crucial part of Rotherham’s LBAP. The participatory approach adopted enables local concerns to be reflected when identifying priorities and allows the process of protecting biodiversity to be shared amongst communities. Effective consultation and involvement is crucial.

Rotherham Biodiversity Forum

Rotherham’s Biodiversity Forum is an established local partnership. It is made up of representatives of all the main statutory and non-statutory conservation organizations active in the area. The combined knowledge and expertise of Rotherham’s biodiversity resource has been fundamental in producing this LBAP. The Forum members and organizations have been actively involved in the protection and conservation of local biodiversity. Their on-going commitment to the LBAP and its implementation is vital to ensure Rotherham’s biodiversity is safeguarded in the future. This LBAP reflects the expressed priorities of local people and will help to inform priorities for the Community Strategy through further community planning.

The successful implementation of the HAPs and SAPs will rely on effective partnerships involving all areas of the community. As an initial step, four sectors have been identified and work has begun to actively involve these partners in the development and implementation of Rotherham’s LBAP.

Landowners and Managers

Landowners and managers are frequently responsible for the grass roots conservation of local biodiversity. They have historically provided an important input into the conservation of local biodiversity, dating back to the leasing of Maltby Low Common in 1971 as the first nature reserve in Rotherham. Their increased involvement is vital to ensure the implementation of the HAPs and SAPs on the ground.

Local Schools and Colleges

There are numerous opportunities to further environmental education in Rotherham. By raising awareness and understanding, we can go some way to teaching future generations about the wonders of nature and our reliance on it. By providing opportunities for students both young and old to become actively involved in safeguarding local biodiversity, we can instil the principle of responsible custodianship.

Local People and Community Groups

There are many local groups who are working hard to study, understand and safeguard their local environment. The active involvement of groups and individuals through Community Planning, is vital in making sure that biodiversity priorities reflect local views and will assist in raising awareness and understanding of the importance of biodiversity.

Businesses

A healthy environment is vital to the achievement of a sustainable future for all. Biodiversity contributes significantly to Rotherham’s economy and a diverse and healthy environment actively supports inward investment and a vibrant local economy. There are many opportunities to involve the business community in the development and implementation of the LBAP. Implementation of ‘best practice’, and other initiatives identifying opportunities to actively contribute towards attaining local biodiversity targets, will be developed.

THE ROTHERHAM LOCAL BIODIVERSITY AREA

Rotherham Metropolitan Borough was created in 1974 and is one of four metropolitan districts within the County of South Yorkshire. It occupies the southern most 109 square miles of the County. To the west lies the City of Sheffield and on the southern extremity of the Pennine Hills the Peak District National Park can be found. Barnsley is to the northwest, Doncaster is to the northeast as are the Humber levels and coastal floodplain (Map 1). Rotherham’s history can be traced back to pre-Roman times when human settlements developed at the confluence of the Rivers Rother and Don.

Rotherham is located in the foothills of the Pennines in the northeast Midlands of England. The countryside and its beauty have been in evidence for many centuries and the landscape is dotted with many places of interest. The varied topography produces a great diversity in the landscape. The town of Rotherham is located on the River Don which is one of the major rivers in the county. The river flows from the north to the south and is divided into three main sections: the upper Don, the middle Don and the lower Don.

English Nature’s (EN) Natural Area Strategy is intended to provide a framework for an integrated approach to nature conservation in England and is related to the Countryside Character programme led by the Countryside Agency. The Natural Area Strategy identifies the geological foundation, natural systems and processes and consequent biodiversity resource of the biogeographic zones of England. South Yorkshire is dominated by the Lower Westphalian Coal Measures in the west with...
small areas of the Pennine foothills in the extreme west being on the Namurian Millstone Grit Series of rocks. Much of Rotherham and the south east of Barnsley lies on the Upper Westphalian Coal Measures. To the east of Rotherham and running northwards through Doncaster is the narrow strip of Magnesian Limestone which runs from Nottingham in the south to Ripon in the north, but this is interspersed with small pockets of Permian mudstones. The eastern side of the county, mainly within Doncaster, lies on Permian and Triassic sandstones (Map 1). The Pennines in the west rise to over 540 metres above sea level on Howden Moor whilst to the north east of Doncaster the land is at or around sea level.

The Natural Area objectives of the Southern Magnesian Limestone are to;
1. Increase and enhance the characteristic semi-natural habitats, particularly woodland and unimproved grasslands, to maintain or increase populations of important species and protect geological features.
2. Increase the nature conservation resource within the Natural Area.
3. Increase awareness and encourage appropriate use of the natural environmental resource.

The Coal Measures

The Coal Measures Natural Area lies east of the Pennine Hills which are the major barrier between east and west Britain (Map 1). This mountain chain has tremendous impact on the local climate and creates moist air masses with moderate temperatures. As such the Coal Measures occupy a central part of Britain and are associated with species of either more southerly or northerly ranges. Rotherham is located in the east of the Natural Area and has relatively fertile soils that are mainly used for arable agriculture whilst the poorer soils of the west are less intensively farmed and largely used for pasture. In the past these nutrient poor acidic soils supported acid grassland, woodland and heathland especially on the steeper, inaccessible slopes. The remnants of these once extensive habitats are now fragmented but relatively unaltered.

The nature conservation interest of the Coal Measures lies predominantly in its range of habitats including the unique variety of urban plants and animals. This biodiversity is largely dependent on land-uses and is particularly influenced locally by the post-industrial sites that historically dominated this economically important region. These post-industrial sites are increasingly being recognized for creating new habitats with important associated wildlife. The wider countryside has been shaped by arable agriculture and, like elsewhere in the UK, the biodiversity here is increasingly threatened by agricultural intensification and development pressure.

Nature conservation features within the Coal Measures Natural Area include woodland, coal tips, canals and river systems, valley and subside wetlands and grasslands, especially acid grassland, neutral hay meadows and historic parklands.

The Natural Area objectives for the Coal Measures are to;
1. Maintain, expand and enhance the characteristic semi-natural habitats such as woodland, valley wetlands, heathland and unimproved grassland and to conserve species and geological features.
2. Increase the nature conservation value of the wider countryside and urban green space within the Natural Area.
3. Increase awareness and encourage appropriate use of the nature conservation resource.
4. Influence the future land-use of sites undergoing fundamental change.

The Southern Magnesian Limestone

The Southern Magnesian Limestone Natural Area is a thin strip, five miles across at its widest point, running from Ripon in the north to Nottingham in the south. The soft limestone rock has weathered and eroded over the millennia to form spectacular rounded hills, gorges and caves. The mineral-rich, well-drained soils over layered limestone and now offer some of the most productive agricultural land in the UK. The area has important archaeological interest, for example Creswell Crags has human remains dating from 45,000 years ago.

The nature conservation interest of the area lies predominantly in the woodlands, hedgerows, rivers and streams, rock outcrops, grasslands, especially calcareous and neutral grasslands and neutral hay meadows, and arable land.

The Natural Area objectives of the Southern Magnesian Limestone are to;
1. Increase and enhance the characteristic semi-natural habitats, particularly woodland and unimproved grasslands, to maintain or increase populations of important species and protect geological features.
2. Increase the nature conservation resource within the Natural Area.
3. Increase awareness and encourage appropriate use of the natural environmental resource.

BIODIVERSITY RECORDING IN ROTHERHAM

The collection and assessment of biological information is an integral part of achieving the objectives of Rotherham’s LBAP. Rotherham’s well-established Biological Records Centre (BRC) has collated over 800,000 records of Rotherham’s biodiversity which form a fundamental baseline for the assessment and monitoring of the area’s biodiversity resource and enables local communities to register and access biological information about their localities. This information is vital for assuring that our natural heritage is managed sustainably by landowners and managers, planners and developers and forms an important resource for naturalists. Rotherham’s BRC is also a key asset in supporting the planning authority's duty to ‘have regard to the desirability of conserving the natural beauty and amenity of the countryside’.

Rotherham is biologically rich with 5% of the area having had more than 1000 species recorded. 78% has more than 100 species recorded, 46% has over 250 species and 23% has over 500 species recorded. Map 2 shows the known species richness (or number of species) in each of Rotherham’s 1-kilometre squares (1km²). It represents the known number of species in each area and is an underestimate of the actual biodiversity that occurs.

In accordance with the UK BAP the collection of biological records will be a crucial aspect of achieving and reviewing the targets set out in the national HAPS and SAPs. In light of this, a National Biodiversity Network has been established to coordinate and disseminate biological information between the local BRC, government agencies and other interested groups. Rotherham’s BRC supports the National Biodiversity Network and will contribute towards the monitoring of national targets.

HABITAT AUDIT

The Biodiversity Forum undertook a habitat audit of the area. This highlighted the diverse range of habitats and plant communities occurring within the LBAP area.

Several methods of vegetation and habitat classification have been used over the years by different fieldworkers. The UK Biodiversity Steering Group identified 17 broad terrestrial and freshwater habitat types (Table 1) to provide a comprehensive framework to monitor the UK countryside and characterize patterns, mosaics and associated dependent species. These broad habitat types have been sub-divided into 26 UK Priority Habitats of particular concern nationally (Table 1). These UK Priority Habitats have been closely related to the National Vegetation Classification (NVC) which was developed by the Joint Nature Conservation Committee (JNCC) as the standard classification methodology. In order to elucidate the relationship between NVC communities and Rotherham’s habitats, definitions including relevant NVC communities where appropriate and/or applicable, are included in Appendix 1. It should be noted that plant communities are dynamic, continually evolving and inter-reacting with numerous factors resulting in mosaics of plant communities.

Many of the habitats that occur in Rotherham have suffered from a historic lack of inappropriate management or disturbance and consequently do not reflect the richness of more ‘natural’ plant communities. As a result, many of the sites throughout the Borough show characteristics of nationally important plant
associations. 40% percent of the UK Species of Conservation Priority have clear associations with UK BAP Habitats of Conservation Priority and over a third of species are closely associated with individual broad habitats, for example broad-leaved woodlands or rivers. In addition, many species require habitat and landscape matrices over the course of their life cycle such as mature trees for nesting and open water for feeding. These more mobile species are especially dependent on mixed farming and riparian mosaics and landscape features. Within these broad landscapes numerous features are especially important, for example wet flushes and those that are long established, such as permanent grasslands and ancient woodlands.

There are numerous advantages of including the associations between species and the habitats they depend on in identifying local priorities including avoiding conflicting management advice for a particular site or habitat. Identifying links between species and habitats has a further application in the restoration of biodiverse landscapes. The presence of the right (micro) habitat of the right size, appropriate proportions and relative proximity to other habitats can be essential for maintaining viable populations. Knowledge of the relative importance of different broad habitats for the species can also help inform decisions on the priorities for habitat protection, restoration and creation.

Tables 9 and 10 illustrate the local conservation priority habitats. Whilst it may be difficult to justify relative positions of habitats in similar positions in the tables it is nevertheless useful in indicating broad priorities. It should be noted that continual evaluation will be necessary as new information becomes available. Tables 11 and 12 show the results of the matrices.

**SPECIES AUDIT**

Rotherham's BRC holds records for over 9250 species and reflects our significant local biological resource. Map 2 illustrates Rotherham’s species richness.

**PRIORITIZING & DEVELOPING WORK PROGRAMMES**

All aspects of Rotherham's biodiversity are important and all mechanisms to ensure its protection should be used. The Biodiversity Forum established local criteria to identify Rotherham's key biodiversity resource. In order to prioritize and develop a rolling work programme to conserve these habitats and species most in need of conservation an objective and clear mechanism to prioritize our work was developed. Such mechanisms enable Rotherham's LBAP to develop local work programmes to link-up with and augment other regional and national work programmes and contribute towards the protection of biodiversity locally, regionally and nationally.

Table 3 shows the disaggregated UK BAP targets for the Coal Measures and Southern Magnesian Limestone Natural Areas and indicates national priorities for the region that informed local evaluation of habitat and species priorities.

**Prioritizing habitats**

Two mechanisms were developed to identify which habitats should be prioritized for action in the short term. The first methodology was based on national guidelines regarding extent and quality guidelines (Tables 4 & 5). It was agreed that extent criteria were more influential in determining local priorities whilst quality criteria were more useful in determining appropriate action. Habitat extent was based on available data, primarily sourced from Rotherham's BRC, but also the Yorkshire and Humber Biodiversity Audit. All habitats except artificial habitats were evaluated. The evaluation criteria have been ranked according to local conservation priority and a score allocated to each criterion. This allows each habitat to be ranked and habitats of the highest conservation ranking prioritized for action. The results of the habitat evaluation are shown in Tables 6, 7 and 8. The second method to determine local priorities was a matrix of habitat - species associations. 40% percent of the UK Species of Conservation Priority have clear associations with UK BAP Habitats of Conservation Priority and over a third of species are closely associated with individual broad habitats, for example broad-leaved woodlands or rivers. In addition, many species require habitat and landscape matrices over the course of their life cycle such as mature trees for nesting and open water for feeding. These more mobile species are especially dependent on mixed farming and riparian mosaics and landscape features. Within these broad landscapes numerous features are especially important, for example wet flushes and those that are long established, such as permanent grasslands and ancient woodlands.

There are numerous advantages of including the associations between species and the habitats they depend on in identifying local priorities including avoiding conflicting management advice for a particular site or habitat. Identifying links between species and habitats has a further application in the restoration of biodiverse landscapes. The presence of the right (micro) habitat of the right size, appropriate proportions and relative proximity to other habitats can be essential for maintaining viable populations. Knowledge of the relative importance of different broad habitats for the species can also help inform decisions on the priorities for habitat protection, restoration and creation.

Tables 9 and 10 illustrate the local conservation priority habitats. Whilst it may be difficult to justify relative positions of habitats in similar positions in the tables it is nevertheless useful in indicating broad priorities. It should be noted that continual evaluation will be necessary as new information becomes available. Tables 11 and 12 show the results of the matrices.
### Priority species/Species Action Plans to be included in the 1st tranche to be finalized at next Biodiversity Forum meeting. Potential species include:

1. Badger (Meles meles)
2. Water Vole (Arvicola terrestris)
3. Otter (Lutra lutra)
4. Noctule Bat (Nyctalus nectula)
5. (Leisler’s Bat ?) (Nyctula leisteri)
6. Giant Bellflower stem-miner (Platyparaea discoidea)
7. White Clawed Crayfish (Austropotamobius pallipes)
8. Great Crested Newt (Triturus cristatus)
9. Common Tern (Sterna hirundo)
10. Mute Swan (Cygnus olor)
11. Grey Wagtail (Motacilla cinerea)
12. Corn Bunting (Miliaria calandra)
13. Skylark (Alauda arvensis)
14. Tree Sparrow (Passer montanus)
15. Song Thrush (Turdus philomelos)
16. Barn Owl (Tyto alba)
17. Little Ringed Plover (Charadrius dubius)
18. Grey Partridge (Perdix perdix)
19. Reed Bunting (Emberiza schoeniclus)
20. Snipe (Gallinago gallinago)
21. Curlew (Numenius arquata)
22. Golden Plover (Pluvialis apricaria)
23. Pillwort (Pilularia globifera)
24. Small-leaved Lime (Tilia cordata)
25. Midland Hawthorn (Crataegus laevigata)
26. Flamingo Moss (Desmatodon cernuus)

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**Species Action Plans**

The wise use of land and natural resources is one of the most important influences on the abundance and variety of animals and plants sharing our planet. The lack of effective land-use planning and poor management of the earth’s natural resources have led to the degradation and loss of some of the planet’s most important biodiversity.

The UK planning system has progressively changed to increasingly recognize and understand the opportunities that land-use planning provides to enhance biodiversity. Significant advances include the adoption of the UK BAP, the European Union (EU) Habitats Directive, the Countryside and Rights of Way Act (2000) and updated Planning Policy Guidance which combine to enshrine biodiversity into UK law. The enhanced profile and increased importance of nature conservation in planning has already resulted in substantial guidance and ‘best practice’ from various organizations including Royal Town and Planning Institute and Association of Local Government Ecologists.

Arguably, the challenge of sustainable development arises most pointedly with respect to urbanization. This is especially so in Rotherham, where development requires subtle and imaginative responses to avoid habitat fragmentation, isolation and degradation and to ensure that new development improves the quality of human life without undermining the quality of the environment. Opportunities to create, restore and enhance ecologically important features should be actively encouraged to minimize any loss. Although influential, the planning system alone cannot achieve biodiversity conservation and other factors such as sensitive land management are also necessary.

**Agriculture**

75% of Rotherham is rural. 49% of the area is directly used for agriculture, primarily under arable production with some beef, pig and poultry farming. The consequential importance of agriculture on local biodiversity and the rural landscape should not be underestimated. However, national trends of habitat deterioration due to habitat fragmentation and agricultural intensification (and resultant increased chemical and inorganic fertilizer use) and, the loss of important semi-natural features have been reflected locally with resultant impacts on Rotherham’s biodiversity resource.

45% of UK Species of Conservation Priority are threatened by agriculture and a further 23% of UK SAPs identified it as an area where action should be taken to tackle conservation concerns. Although the EU Common Agricultural Policy has recently undergone reform, this agricultural framework for the industry is still having significant impacts on biodiversity both nationally and locally. Further industrialization of farming, including the use of genetically modified organisms, could increase the impacts on the local biodiversity even more. Further reform is necessary to ensure that the agricultural sector can fully contribute towards the shared vision of a biologically rich rural environment.

**Climate Change**

Although there is still some uncertainty regarding the magnitude and pattern of some elements of climate change it is now accepted by the UK Government that anthropogenic-induced climate change is occurring. The necessary policy responses to climate change, such as re-examining conservation status in light of changing environments, are beyond the scope of this LBAP. However, it is worth noting that the expected accelerated changes will significantly affect UK species and habitats by altering the climatic conditions that shape the distribution and composition of ecosystems.
The wildlife of Rotherham is changing in response to the changing climate, as it has responded to the changes in agriculture, in air and water pollution and in the plants and animals which we have introduced. This can be seen in highly visible and highly mobile animals such as butterflies and dragonflies. 25 years ago there were 21 species of butterflies recorded in Rotherham, 2 of which were rare migrants, while 29 have been found here within the last five years. Some of the additions are now quite widespread, such as Speckled Wood, Ringlet and Comma. Only 7 species of dragonflies were recorded in Rotherham 25 years ago but a further 12 have been found here over the last five years, including such impressive insects as the Emperor Dragonfly and the Banded Demoiselle. Although the changes are less spectacular amongst plants there are examples, such as Prickly Lettuce and Canadian Fleabane, which were very scarce and restricted twenty years ago but are now found throughout Rotherham. Other less noticeable animals have also been recorded for the first time recently and it is probable that there are many "newcomers" amongst them.

It is far harder to recognize decreases and losses until it is too late. Consistent recording of the local wildlife is the only way for these to be seen but these effects can be masked by the natural fluctuations that affect all plant and animal populations.

The effects on habitats are less easily monitored and may be affected more by changes in the proportions of the constituent plants rather than outright gains and losses. Increases in rainfall leading to flooding and erosion by swollen streams will affect riparian habitats and increased temperatures causing grassland to dry out more quickly during the summer will favour some plants more than others. Rotherham's biodiversity will respond to these changes and take advantage of them but some species will find conditions less suitable.

**Water Use and Management**

Local water use, especially that associated with the historic heavy industry in Rotherham, has had significant impacts on biodiversity. Sustained pollution, over-abstraction and physical changes to the riparian habitat of many of the area's watercourses have reduced the range and extent of many natural and semi-natural habitats and their associated species. However, recent legislative and policy changes have significantly reduced many of the most significant damaging impacts on the aquatic environment. Increased recognition of the importance of water and the necessity to use and manage it sustainably are now well established and the resultant effect on an increasingly rich aquatic environment is apparent. Continued vision is required to ensure that future use of the waterways and development recognizes the key ecological functioning provided by watercourses.

**LEGISLATIVE FRAMEWORK**

The UK BAP sets out as its broad objective to "conserve and enhance biological diversity within the UK and to contribute to the conservation of global biodiversity through all appropriate mechanisms". There are many such mechanisms available, and especially relevant are European and UK legislation concerning biodiversity. This legislation is complex and reflects British and European cultural and historic interest in nature and its protection and conservation. A full review of the available mechanisms is beyond the scope of this LBAP. However, significant legislation and statutory guidance includes the following.

The European Community (EC) Habitats Directive aims to "contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora". The Directive is transposed into UK law through the Conservation (Natural Habitats &c.) Regulations 1994. Its purpose is to contribute to biodiversity conservation. Key provisions include the establishment of Special Areas of Conservation (SAC) to maintain and restore at a "favourable conservation status" the habitats and species of community importance. Provision is also given to the protection of species outside of SACs. In addition, the Habitats Directive recognizes the importance of managing landscape features of major importance for wild plants and animals. Such features include boundary and linear habitats, such as rivers, and other features, for instance small woods and ponds that function as "stepping stones". Such features are essential for the migration, dispersal and genetic exchange of wild species. Policies encouraging the management and protection of such features should be included within local planning policies.

The Birds Directive objective is "the conservation of all species of naturally occurring birds in the wild state in the European territory of the Member States". This provides a general level of protection for all wild birds in the EC and the designation of Special Protection Areas (SPA) to conserve the habitats of certain particularly rare species, such asROSS. Other less noticeable animals have also been recorded for the first time recently and it is probable that there are many "newcomers" amongst them.

UK wildlife legislation has recently undergone significant review with the adoption of the Countryside and Rights of Way (CROW) Act (2000). This extends some elements of The Wildlife and Countryside Act (1981) including affording greater protection to species and reinforcing measures to protect against habitat loss especially in SSSIs. The CROW Act enshrines the biodiversity process and policy into UK law and places a legal duty on Government Ministers and Departments in respect of the conservation of biodiversity. However, it seems likely that ministers will reflect this biodiversity duty in future guidance to local authorities. More directly the Act requires local authorities, in relation to SSSIs, to ...further the conservation and enhancement of the flora, fauna..." and thereby creates a significant additional biodiversity duty. The Act also reflects the Government's recognition of the importance of biodiversity and the influence it should bear on local activities.

The Countryside Act 1968 imposes a duty on all planning authorities to have regard to the desirability of conserving the natural beauty and amenity of the countryside, which includes its wild animals and plants, and its geological and geomorphological features.

The National Parks and Access to the Countryside Act (1949) introduced the concept of designating sites of nature conservation importance and resulted in the designation of National Nature Reserves (NNR) and Sites of Special Scientific Interest (SSSI). The Act also conferred powers to local authorities to designate Local Nature Reserves (LNR). Such sites should be:

1. of high natural interest in the local context (SSSI or equivalent), or;
2. of some reasonable natural interest and of high value in the Paroh/Distric/t/Borough/County context for environmental education and research, or;
3. of some reasonable natural interest and of high value in the Paroh/Distric/t/Borough/County context for the informal enjoyment of nature by the public, or;
4. any combination of the above, and
5. capable of being managed with the conservation of nature and/or the special opportunities for study or research as a priority concern.

Other legislative and policy developments recognize the importance of integrating biodiversity into the decision making process. Part 1 of the Local Government Act (2000) places a duty on local authorities to prepare 'Community Strategies'. These should aim to "enhance the quality of the life of local communities and contribute towards the achievement of sustainable development in the UK through action to improve the economic, social and environmental well-being of an area and its..."
inhabitants. Government guidance to local authorities on preparing Community Strategies gives ‘greater encouragement to local authorities to have their own local biodiversity action plans ... [and that the Government] ... expects all local authorities to incorporate planning for local action on biodiversity in the integrated community strategy’. The CROW Act also outlines the Government’s expectation that local authorities ‘should build upon [LBAPs] when preparing the overarching Community Strategies’. The Rural White Paper, which outlines the Government’s commitment policy for local authorities and recommends such backing should encompass some commitment to local record centres and local wildlife sites. This reiterates the UK Government’s commitment to the sustainable management of biodiversity and supports the responsibility of local authorities to ‘keep under review the matters which may be expected to affect the development of [the local authority] area’.

Legislation to protect biodiversity has developed consistently with the planning framework and this is reflected in a number of recently updated Planning Policy Guidance (PPG) that recognizes biodiversity as a fundamental issue to be incorporated into the decision making process.

PPG 11 Regional Planning identifies the important role that unitary development plans and other structure plans have to mitigate against adverse effects, foster biodiversity and protect ecosystems. In order for Regional Planning Guidance to fulfil these objectives and complement any regional biodiversity strategies, Regional Assemblies should liaise closely with regional biodiversity fora. The Regional Biodiversity Forum for Yorkshire and the Humber has started this work by completing a regional audit and developing regional biodiversity indicators. However, further work is still needed to ensure that effective regional mechanisms are established to monitor the state of the environment and ensure that biodiversity and nature conservation objectives are incorporated into regional development plans.

PPG 25 Development and Flood Risk recognizes the functional importance of floodplains and the ecological importance of associated habitats and the importance of integrating the UK BAP and LBAPs into local policy.

PPG 9 on Nature Conservation is due to be updated in light of recent legislative changes. It is expected to provide guidance on the appropriate identification and subsequent protection of third tier wildlife sites, also known as Sites Important for Nature Conservation (SINCs). The locally important sites are designated as SINCs by many local authorities to protect them from inappropriate development and to make certain that they are managed appropriately.

The Environmental Impact Assessment Regulations identify developments that may have environmental impacts that should be taken into account by the Planning Authority in determining planning applications. These criteria, for identifying such developments, include environmental sensitivity and relative abundance, quality and regenerative capacity of the natural resource likely to be affected. The Environmental Impact Assessment Directive includes provisions for Uncultivated Land and Semi-natural Areas. The proposed measures will increase environmental safeguards in the case of projects for bringing uncultivated land or semi-natural areas into intensive agricultural use. They will provide an important mechanism to ensure the protection of semi-natural habitats. The provisions will also bring such projects into line with those that already apply to non-agricultural projects under the town and country planning system.

**GENERAL ACTIONS FOR ROTHERHAM'S BIODIVERSITY**

There are many generic issues affecting biodiversity locally. Work targeting these issues can significantly contribute towards the attainment of biodiversity targets and will be supportive of managing and enhancing a biodiverse Rotherham. Effective coordinated action by all areas of the community will be required to achieve these aims.

1. Target and prioritize habitat conservation as the most effective means of species conservation.
2. Identify, survey and map locally important habitats and sites as part of a rolling programme of environmental monitoring.
3. Identify key sites for active management and investigate appropriate designation.
4. Identify habitats within current environmental management.
5. Encourage the uptake of management agreements with landowners/managers.
6. Halt and reverse habitat fragmentation and species isolation by the identification and protection of important wildlife corridors and ‘stepping stones’.
7. Support the maintenance of genetic variety by using local provenance stock.
8. Ensure that the planning authority is aware of the presence of important biodiversity by the development of appropriate mechanisms.
9. Consider the development of Supplementary Planning Guidance as an aid to developers and to encourage best practice.
10. Make sure that the enforcement of the adopted regulations implementing the Uncultivated Land or Semi-natural Areas Provisions of the Environmental Impact Assessment (Habitats Regulations).
11. Ensure that Codes of Good Agricultural Practice are adopted for the protection of soil, water and air.
12. Develop monitoring mechanisms to assess the state of the local environment.
13. Monitor habitat restoration and management schemes and make certain that planning conditions (Section 106 agreements) are enforced.
14. Raise public awareness of biodiversity and the factors affecting it in Rotherham.
15. Forge links with local communities to ensure further active local involvement.
16. Develop educational opportunities to engage local people and community groups in their area’s environment.
17. Make sure that legislation protecting biodiversity is enforced.
19. Identify Key Species and habitats to be referred to in the planning process.
20. Make certain that the significant contribution that implementation of Rotherham's LBAP will have in achieving aims of the Community Strategy is acknowledged by key partners.
TABLES & APPENDICES

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<td>UK BAP Broad Habitat - Species Matrix</td>
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<td>UK BAP Broad and Priority Habitats important for birds</td>
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<td>UK BAP Broad Habitats important for mammals</td>
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Appendix 1 Habitat Definitions 38
Map 1: Physical Features in Rotherham

Map 2: Species Richness in Rotherham

Key:
- 2000+: 2
- 1500-1999: 1
- 1000-1499: 5
- 500-999: 4
- 250-499: 0
- 100-249: 0
- 0-99: 0

Rotherham Borough Boundary
### Table 1 Priority UK BAP Terrestrial and Freshwater Habitats

- Priority habitat that is habitat complex, distinguished by its land-use, and containing other elements from other broad habitat types.

<table>
<thead>
<tr>
<th>UK Broad Habitat type</th>
<th>Priority UK BAP Habitats</th>
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</thead>
<tbody>
<tr>
<td>1. Broad-leaved, Mixed and Yew Woodlands</td>
<td>Upland Oak Woodland (Upland) Mixed Ash Woodland Wet Woodlands Lowland Beech and Yew Woodland Lowland Wood Pasture and Parkland</td>
</tr>
<tr>
<td>2. Coniferous woodland</td>
<td>Native Pine Woodland</td>
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<tr>
<td>3. Boundary and Linear Features</td>
<td>Ancient and/or Species-rich Hedgerows</td>
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<td>4. Arable and Horticulture</td>
<td>Cereal Field Margins</td>
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<td>5. Improved Grassland</td>
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<td>6. Neutral Grassland</td>
<td>Lowland Meadows Upland Hay Meadows Coastal and Floodplain Grazing Marsh</td>
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<td>7. Calcareous Grassland</td>
<td>Lowland Calcareous Grassland Upland Calcareous Grassland</td>
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<td>8. Acid Grassland</td>
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<td>9. Bracken</td>
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<tr>
<td>10. Dwarf Shrub Heath</td>
<td>Lowland Heath Upland Heath</td>
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<tr>
<td>11. Fen, Marsh and Swamp</td>
<td>Purple Moor-grass and Rush Pasture Fens Reedbeds</td>
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<td>13. Standing Open Water and Canals</td>
<td>Mesotrophic Standing Waters Eutrophic Standing Water Aquifer Fed Naturally Fluctuating Water Bodies</td>
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<tr>
<td>14. Rivers and Streams</td>
<td>Chalk Rivers</td>
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<td>15. Montane Habitats</td>
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<td>16. Inland Rock</td>
<td>Limestone Pavements</td>
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<td>17. Built up Areas and Gardens</td>
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### Table 2 Rotherham’s Important Biodiversity Habitats

- Defined as land wooded for at least 400 years.
- Defined as land continuously in grassland since at least 31st December 1991 (and in accordance with IACS payments under the Arable Area Payment Scheme).

<table>
<thead>
<tr>
<th>Broad Habitat type</th>
<th>Priority UK BAP Habitats</th>
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<tbody>
<tr>
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<td>(Upland) Mixed Ash Woodland Wet Woodlands Lowland Wood Pasture and Parkland</td>
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<tr>
<td>2. Boundary and Linear Features</td>
<td>Ancient and/or Species-rich Hedgerows Herb-rich Verges</td>
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<td>3. Arable and Horticulture</td>
<td>Cereal Field Margins</td>
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<td>4. Improved Grassland</td>
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<td>5. Neutral Grassland</td>
<td>Lowland Meadows (Coastal and) Floodplain Grazing Marsh</td>
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<td>6. Calcareous Grassland</td>
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<td>Fens Rush Pasture</td>
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<td>11. Standing Open Water and Canals</td>
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<td>12. Rivers and Streams</td>
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<td>13. Montane Habitats</td>
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<td>14. Inland Rock</td>
<td>Naturally colonized rock</td>
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<td>15. Built up Areas and Gardens</td>
<td>Post Industrial Sites Gardens Allotments</td>
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### Table 3 UK BAP Natural Area Disaggregated Targets

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<tr>
<th>Coal Measures Natural Area</th>
<th>Species</th>
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<tr>
<td><strong>Habitats</strong></td>
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<td>Lowland Wood Pasture and Parkland</td>
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<td>Floating Water-plantain*</td>
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<td>Turtle Dove</td>
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### Southern Magnesian Limestone Natural Area

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<td>(Upland) Mixed Ash Woodland</td>
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<td>Mesotrophic Standing Waters</td>
<td>Wryneck</td>
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<td>Red-backed Shrike *</td>
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### Table 4 Habitat Evaluation Criteria: Contextual Priority Criteria

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<th>Quality Criteria</th>
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### Table 5 Habitat Evaluation Criteria: Extent Priority Criteria

**Decline Rate**

- 3: Rapidly declining (50-100% decline rate in last 25 yrs.)
- 2: Declining (25-49% decline rate in last 25 yrs.)
- 1: Stable (24% increase - 24% decrease in habitat extent in last 25 yrs.)
- 0: Increasing (> 25% increase in habitat extent in last 25 yrs.)

**Proportion UK Habitat in Rotherham/Region/Natural Area**

- 2: Highly Significant or Endemic (> 20% of Region/Natural Area resource)
- 1: Significant (10-20% of Region/Natural Area resource)
- 0: Isolated (local habitat is isolated from other areas of the same habitat)

**Local Threat**

- 2: High (Directly threatened by lack/inappropriate management)
- 1: Medium (Indirectly threatened by generic actions e.g. pollution)
- 0: Low

**Local Rarity**

- 2: Rare (habitat currently covers less than 0.6 % of the total LBAP area)
- 1: Scarce (habitat currently covers 0.6 - 4 % of LBAP area)
- 0: Common (Habitat currently covers > 4 % of LBAP area)

### Table 6 Woodland Habitat Evaluation

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<th>Habitat</th>
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### Table 8: Lowland Habitat Evaluation

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Table 9 Local Habitat Evaluation

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Table 10 UK BAP Broad Habitat - Species Matrix

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Table 11 Species - Habitat Associations™: UK BAP Priority Habitat - Priority Species Matrix

N.B. It should be noted that many of the UK BAP Priority Species (Species of Conservation Priority) do not occur within Rotherham.

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<tr>
<td>Lowland Calcareous Grassland</td>
<td>46</td>
</tr>
<tr>
<td>Lowland Wood Pasture and Parkland</td>
<td>27</td>
</tr>
<tr>
<td>Fens</td>
<td>26</td>
</tr>
<tr>
<td>Coastal and Floodplain Grazing Marsh</td>
<td>18</td>
</tr>
<tr>
<td>Lowland Dry Acid Grassland</td>
<td>16</td>
</tr>
<tr>
<td>Cereal Field Margins</td>
<td>12</td>
</tr>
<tr>
<td>Mesotrophic Standing Waters</td>
<td>12</td>
</tr>
<tr>
<td>Wet Woodlands</td>
<td>12</td>
</tr>
<tr>
<td>Upland Oak Woodland</td>
<td>11</td>
</tr>
<tr>
<td>Purple Moor-grass and Rush Pasture</td>
<td>10</td>
</tr>
<tr>
<td>Ancient and/or Species-rich Hedgerows</td>
<td>5</td>
</tr>
<tr>
<td>Reedbeds</td>
<td>3</td>
</tr>
<tr>
<td>(Upland) Mixed Ash Woodland</td>
<td>2</td>
</tr>
<tr>
<td>Lowland Neutral Meadows</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 12 Species - Habitat Associations; UK BAP Broad Habitats ranked by number of associated UK Priority Species

N.B. It should be noted that many of the UK BAP Priority Species (Species of Conservation Priority) do not occur within Rotherham.

<table>
<thead>
<tr>
<th>Nos. species primarily, inc. joint associations, associated with habitat</th>
<th>Habitats</th>
</tr>
</thead>
</table>
| HIGH                                                                  | Broad-leaved Woodland  
Rivers and Streams  
Inland Rock  
Standing Open Water and Canals  
Boundary and Linear Features  
Arable and Horticulture  
Fen, Marsh and Swamp  
Acid Grassland  
Neutral Grassland  
Coniferous Woodland  
Built Up Areas and Gardens  
Bracken  
Improved Grassland |
| LOW                                                                   |                                                                 |

Table 13 UK BAP Priority Habitats & their relative value for Invertebrates

<table>
<thead>
<tr>
<th>Relative Degree of Invertebrate Interest</th>
<th>Habitats</th>
</tr>
</thead>
</table>
| HIGH                                     | Fens  
Coastal and Floodplain Grazing Marsh  
Lowland Heath  
Reedbeds  
Mesotrophic Standing Waters  
Ancient and/or Species-rich Hedgerows (Upland) Oak Woodland  
Purple Moor-grass and Rush Pasture  
Cereal Field Margins |
| LOW                                      |                                                                 |

Table 14 UK BAP Broad and Priority Habitats Important for birds

<table>
<thead>
<tr>
<th>Habitats</th>
</tr>
</thead>
</table>
| Broad-leaved Woodland Broad Habitat  
Standing Open Water and Canals Broad Habitat  
Lowland Farmland habitat mosaic  
Built Up Areas and Gardens  
Coastal and Floodplain Grazing Marsh (including wet grassland)  
Rivers and Streams  
Ancient and/or Species-rich Hedgerows  
Reedbeds  
Cereal Field Margins  
Purple Moor-grass and Rush Pasture |

Table 15 UK BAP Broad Habitats Important for mammals

<table>
<thead>
<tr>
<th>Habitats</th>
</tr>
</thead>
</table>
| Broad-leaved, Mixed and Yew Woodland Broad Habitat  
Standing Open Water and Canals Broad Habitats  
Boundary and Linear Features  
Lowland Farmland habitat mosaic |
Appendix 1 Habitat Definitions

The classification used here defines habitats as ecologically-integrated units at a landscape scale, rather than seeing habitats as simply distinct types of vegetation. As the habitat classification is intended as a framework for the conservation of both flora and fauna, and many animals depend upon the quality of the mosaic of vegetation and not just the vegetation type, this broader form of biotope classification is considered more meaningful. The following descriptions include an approximation of the relationship between the Habitat Categories used for the UK BAP and the communities of the NVC. However, difficulties arise in that these classifications were devised for different purposes and used different principles. NVC references included are intended to be indicative and not a complete description of the plant communities and habitat types found within Rotherham.

OAK-BIRCH WOODLAND

Oak-Birch Woods are usually found on the acidic soils of the Coal Measures Natural Area and are the most common woodland within Rotherham. Characterized by a predominance of oak (mainly Sessile Oak, but sometimes Pedunculate Oak) and Silver Birch in the canopy, with varying amounts of Holly, Rowan and Hazel as the main understorey shrubs. The field layer varies depending on localized variations in the soil and past and current management practices, but is normally species-poor. Bracken and Wavy Hair-grass dominate on the most acidic soils with Heather and Bilberry occasionally appearing in the canopy openings. On the less acidic soils the floral diversity increases with Bramble, Creeping Soft-grass and Bluebell becoming more frequent. In terms of NVC communities, Rotherham’s Oak-Birch Woods usually fall into either Pedunculate Oak - Bracken - Bramble woodland (W10) or oak-birch - Wavy Hair-grass woodland (W16).

None of the Oak-Birch Woods in Rotherham exhibit the rich bryophyte communities and other distinguishing features of Upland Oak Woodland, a UK BAP Priority Habitat, which predominantly occurs on the western seaboard of the UK.

(UPLAND) MIXED ASHWOODLAND

The term (Upland) Mixed Ashwoods is used for woods on base-rich soils where Ash is a dominant species. Locally Field Maple, oaks, Hazel, Wych Elm, Wild Service-tree and limes, especially Large-leaved Lime but also Common Lime and Small-leaved Lime are often common. These limestone woods are also important for Yew which may form small groves in intimate mosaics with the other major trees, whilst Alder may occur where there are transitions to Wet Woodland. Despite variations in canopy composition the ground flora remains broadly similar.

Nationally the largest examples occur on limestone, i.e. well-drained, base-rich soils. Rotherham has some good examples of this type of woodland although it is also found on more acidic, poorly-drained soils where there is flushing of nutrients. Upland in the name reflects the abundance of this type of woodland on base-rich or leached soils in upland Britain rather than to the altitude at which individual sites occur.

NVC plant communities characterized by this habitat include Ash - Field Maple - Dog’s Mercury woodland (W8) and Ash - Rowan - Dog’s Mercury woodland (W9), together with Yew woodland (W13) in the Yew groves on the Carboniferous and Magnesian Limestones. The boundaries between this type and lowland mixed deciduous woodland may be unclear in places because the two types form an ecological continuum determined by soil conditions, climate etc.

WET WOODLAND

Wet Woodland occurs on poorly drained or seasonally wet soils, usually with Alder, willows and birches as the predominant trees, although tree and ground flora can vary considerably, especially on drier riparian areas. Wet Woods are found adjacent to water courses, floodplains, as succession habitat on fens, mires and bogs, along streams and hillside flushes and in peaty hollows. Wet Woods are frequently narrow linear strips or small fragments generally associated with watercourses, floodplains, springs and wet flushes. In Rotherham, they are often found in a mosaic with other key woodland habitats, in particular acid Oak-Birch Woods on the Coal Measures and species-rich Ashwoods on the Southern Magnesian Limestone. The field layer in Wet Woods is often diverse and typical plants include Golden-saxifrage, Lesser Celandine, Creeping Buttercup, Wood Avens and Herb Robert. The moist conditions favour bryophyte communities, although historic air pollution caused by heavy industry may have reduced the presence and diversity of bryophyte communities found in Rotherham’s Wet Woods.

Wet Woods in Rotherham are normally dominated by Grey Willow - Common Marsh - bedstraw woodland (NVC W1), Grey Willow - Downy Birch - Common Reed woodland (W2), Alder - Nettle (W6) and Alder - Ash - Yellow Pimpernel woodland (W7).

LOWLAND WOOD PASTURES AND PARKLANDS

Wood Pasture and Parkland is considered to be a product of historic land management rather than a particular vegetation community. The typical habitat complex has elements of a range of broad habitat types, the nature and extent of which varies from site to site.

Large trees, either pollarded or with spreading crowns growing in open grassland which is usually grazed and normally has woodland plants growing amongst it are characteristic of Wood Pasture and Parkland. Much of this habitat’s interest is associated with the typically mature and/or ancient trees and their related invertebrates.

The main NVC communities associated with this habitat include Pedunculate Oak - Bracken - Bramble woodland (W10), Oak-Birch - Wavy Hair-grass woodland (W16) and Beech - Wavy Hair-grass woodland (W15). Frequently the grassland communities are of interest including the Sheep’s-fescue - Common Bent - Heath Bedstraw grassland (U4), Bracken - Heath Bedstraw grassland (U20). Good examples in Rotherham include the grounds of the District General Hospital, Wentworth Park, Ravenfield Park and Low Common.
SCRUB

Most definitions of scrub describe it as vegetation dominated by shrubs or bushes however this distinction can be somewhat arbitrary. Many land cover classifications (e.g. Institute of Terrestrial Ecology [ITE] Countryside Survey, National Countryside Monitoring Scheme) use a threshold of 50% canopy cover by shrubs. The distinction between scrub and woodland vegetation is less clear. Many British scrub communities can be considered as several stages in the succession from herbaceous communities to woodland. Scrub may occur as primary successions on screes, cliffs and quarries but is more widely encountered as part of secondary succession after the abandonment of arable land or the relaxation or cessation of grazing on grassland or heathland.

For the purpose of this LBAP, and adopted by JNCC in reviewing the conservation value of scrub[^1], scrub includes all stages from scattered bushes to closed canopy vegetation, dominated by locally native or non-native shrubs and tree saplings, usually less than 5m tall, occasionally with a few scattered trees. This definition excludes dwarf shrub heaths (dominated by heathers), planted stands of young trees and coppice stump regrowth less than 5m tall. Scrub of high nature conservation value is characterized by a diverse range of shrubs and a complex canopy structure. Gaps in the canopy allow the survival of grassland plants and tall herbs. In addition to these important physical characteristics, NVC identifies a number of communities including Hawthorn - Ivy (W21), Blackthorn - Bramble (W22 scrub), European Gorse - Bramble (W23 scrub), Bramble - Yorkshire-fog (W24 underscrub) and Bracken - Bramble (W25 underscrub) communities.

ANCIENT AND/OR SPECIES-RICH HEDGEROWS

Ancient hedgerows (which tend to be the ones that support the greatest diversity of plants and animals) are defined as those which predate the Enclosure Acts, passed mainly between 1720 and 1840. Species-rich hedgerows are included in the UK HAP as those which contain five or more native species of woody plants in a 30 metre length, or those with fewer woody plants but with a rich flora of herbaceous plants at their base. Recently planted species-rich hedges are included in this category. At present, the national definition[^2] excludes earth and stone banks and stone walls as boundary features, unless woody plants are also present.

Hedgerows in Rotherham tend to be included within NVC Hawthorn - Ivy (W21), Blackthorn - Bramble (W22) and Bramble - Yorkshire-fog (W24) scrub communities.

CEREAL FIELD MARGINS

Cereal field margins are strips of land between crops and field boundaries that often extend into the edge of the managed crop. It is a description of land-use management that actively creates conditions which benefit important farmland species. Cereal field margins can include ‘conservation headlands’ or ‘wildlife strips’. Grassed field margins and planted cereal field margins occur in Rotherham where self-seeded, uncultivated natural grassland is managed for its nature conservation interest. There are no applicable NVC communities.

LOWLAND NEUTRAL GRASSLAND

Neutral grassland is characterized by vegetation dominated by grasses and herbs on circum-neutral soils (pH 4.5 - 6.5). Traditionally Lowland Neutral Grasslands were managed as hay meadows or as pasture for grazing. However, with changing agricultural practices most of this type of grassland has been agriculturally improved with a consequential decrease in species-richness. Species-rich neutral grassland is now a scarce resource within Britain and once common plants such as Birds-foot-trefoil, Knapweed, divers, Yellow-rattle and the Adder’s-tongue Fern are becoming increasingly rare. Species-rich neutral grasslands are still agriculturally managed although some churchyards and roadside verges are also important examples of this habitat in Rotherham.

Neutral grasslands in Rotherham are False Oat-grass (MG1), Crested Dog’s-tail - Black Knapweed (MG5), Yorkshire-fog - Tufted Hair-grass (MG9), and Rye-grass - Crested Dog’s-tail (MG6) grasslands.

FLOODPLAIN GRASSING MARSH

Floodplain Grazing Marsh is neutral grassland that is periodically inundated and usually grazed. Ditches with high water levels and seasonal, water-filled hollows and pools with emergent swamp communities may be present. Included within this habitat is wet grassland that may be permanently or seasonally wet, due to a high water table or to periodic flooding.

NVC communities include Crested Dog’s-tail - Marsh Marigold grassland (MG8), Yorkshire-fog - Soft-rush grassland (MG10) and Yorkshire-fog - Tufted Hair-grass communities (MG9). Plant communities associated with moister conditions include Meadowweet - Wild Angelica mire (M27). In addition, there are numerous aquatic communities found in ditches.

LOWLAND CALCAREOUS GRASSLAND

This UK BAP Habitat of Conservation Priority is characterized by grasses and herbs on shallow, well-drained soils which are base-rich (typically >pH6). Calcareous, or calcicolous, grassland has indicative plants such as Wild Thyme, Rock-rose, Quaking-grass and Tor-grass. NVC communities include Sheep’s-fescue - Meadow Oat-grass grassland (CG2), Upright Brome (CG4), Tor-grass (CG4) and Upright Brome - Tor-grass (CG5) communities.

LOWLAND DRY ACID GRASSLAND

This UK BAP Habitat of Conservation Priority frequently occurs as an integral part of lowland heath landscapes, in parklands and adjacent to woodlands in the Coal Measures Natural Area. Unusually, it can also occur on areas of overlying Permian Marl within the Southern Magnesian Limestone Natural Area. It includes enclosed and unenclosed areas below 300m and is generally managed by extensive grazing on agriculturally poor sites.

In Rotherham its plants include Heath Bedstraw, Sheep’s-fescue, Common Bent, Sheep’s Sorrel, Wavy Hair-grass and Tormentil. NVC communities include Sheep’s-fescue - Common Bent - Sheep’s Sorrel grassland (U1), Wavy Hair-grass dominated grassland (U2) and Sheep’s-fescue - Common Bent - Heath Bedstraw (U4) communities.

LOWLAND HEATH

Lowland Heathland is a rare habitat within Rotherham, only occurring in small, isolated patches and often within habitat mosaics of woodland, flushes and acid grassland. There are at least two distinct types of Lowland Heath: dry heath is found on dry, often rocky soils while wet heath is found on wetter areas.

The main NVC communities associated with Lowland Heath in Rotherham include Heather - Western Gorse (H8), Heathier - Wavy Hair-grass (H9) and Heather - Sheep’s-fescue (H1) heaths.
FENS

Fens are minerotrophic peatlands i.e. peatlands that receive water and nutrients from the soil, rock and groundwater as well as from rainwater. They are the result of management and, in general, management is needed to maintain open fen communities and their associated ecological interest. This broad habitat can be extremely biologically rich.

There are two broad types of fen. Topogenous fens are those where water generally travels vertically through the peat or soil and they include basin fens and floodplain fens. Soligenous fens are those where the water movements are predominantly lateral and include springs, valley mires and flushes. ‘Base-poor’ fens have water derived from base-poor rock such as sandstone or gravel and are characterized by short vegetation with a high proportion of bog mosses and acidic water. ‘Rich’ fens are fed by mineral-enriched calcareous water and are more common in Rotherham.

NVC communities include the Reed - Stinging Nettle tall herb fen (S26), Reed Canary-grass tall herb fen (S28), Blunt-flowered Rush - Marsh Thistle fen meadow (M22) and Meadowsweet - Wild Angelica mire (M27).

REEDBEDS

Reedbeds are wetlands dominated by stands of Reed growing in standing water. They normally incorporate areas of open water, ditches, small areas of wet grassland and carr woodland. NVC communities include Reed-beds (S4) Reed and Sweet-grass swamp (S5) and Reedmace swamp (S12). Stands of Reed’s associated with post-industrial sites, in particular colliery lagoons, are often a different ecotype due to the high salinity of the mine waters.

PURPLE MOOR GRASS AND RUSH PASTURE

Purple Moor-grass and Rush Pasture occur on poorly-drained or water-logged soils in lowland areas of high rainfall in western Europe. The vegetation consists of various species-rich types of fen meadow and rush pasture and the UK BAP Habitat of Conservation Priority is characterized by Purple Moor-grass and Sharp-flowered Rush. Traditionally managed by cattle grazing, it is often species-rich and can support uncommon plants and animals. However, such species-rich sites are rare in Rotherham and are replaced by sites dominated by Soft Rush and ranker grasses, particularly Yorkshire-fog. Purple Moor-grass and Rush Pasture is usually characterized by Yorkshire-fog - Soft Rush pasture (MG10), Soft Jointed Rush and Marsh Bedstaw rush pasture (M23) communities.

RIVERS AND STREAMS

Streams and rivers are major linear features of the landscape. Watercourses and their banks support a wide diversity of plants and animals. They act as corridors for the movement of both water and land animals such as fish, birds and mammals for instance Otter. Broad, well-vegetated bankside strips can also act as buffer zones reducing the impact of agricultural activity on the biological condition of the water course. Rivers are important for domestic, agricultural and industrial water supply and for recreational purposes.

The NVC is of more limited application to rivers and streams due to the dynamic character of these habitats and NVC communities are not included here.

STANDING OPEN WATER

Standing waters are usually classified according to their nutrient status, which can change naturally over time and as a result of pollution. Historically, most of Rotherham’s standing water has suffered from eutrophication (nutrient enrichment) and all of Rotherham’s water bodies are either eutrophic (nutrient-rich) or mesotrophic (intermediate).

Some local sites support a good macrophyte flora, including Yellow Water Lily, Spiked Water-milfoil, Water Violet, pondweeds and Pillwort, a nationally-scarce water fern.

NVC communities include Duckweed community (A2), White Water-lily community (A7), Broad-leaved Pondweed community (A9), Amphibious Bistort community (A10), Water-starwort community (A16) and Canadian Pondweed community (A15).

In addition to these communities, the transition zone between open water and land is often occupied by tall emergent swamp or reed vegetation and carr. These may include Greater Tussock-sedge (S3), Reed-beds (S4) Reed and Sweet-grass swamp (S5), Greater Pond-sedge (S6), Bulrush (S8), Reedmace swamp (S12), Branched Bur-reed swamp (S14) and Floating Sweet-grass swamp (S22) communities.

Canals may also support Reed (S4 swamp and reed-beds), Reed Sweet-grass (S5), Reedmace (S12), Branched Bur-reed (S14) and False Fox-sedge (S18) swamps communities.

NATURALLY COLONIZED ROCK EXPOSURES

There are numerous naturally-occurring rock outcrops in Rotherham, including remnants of glacial drift, as well as exposed quarry faces. These habitats have special features. At Maltby and at Anston the natural limestone rocks are set in quite open grassland, with herbs such as the Yellow Biting Stonecrop, Wild Thyme and Rock-rose. In Lindrick the quarry floor has Wild Strawberry, the rare Buck’s-horn Plantain and various orchids, while gentians such as Felwort and Yellow-wort are numerous.
<table>
<thead>
<tr>
<th>Habitat &amp; Species Action Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grasslands</strong></td>
</tr>
<tr>
<td>Arable Field Margins</td>
</tr>
<tr>
<td>Lowland Acid Grassland</td>
</tr>
<tr>
<td>Lowland Neutral Grassland</td>
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<tr>
<td>Lowland Heath</td>
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<tr>
<td>Floodplain Grazing Marsh</td>
</tr>
<tr>
<td><strong>Woodlands</strong></td>
</tr>
<tr>
<td>Oak &amp; Birch Woodland</td>
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<tr>
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<tr>
<td>Upland Mixed Ash Woodland</td>
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<td>Bellflower Stem-miner</td>
</tr>
<tr>
<td>Pillwort</td>
</tr>
<tr>
<td>Common Tern</td>
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</tbody>
</table>
For the purposes of this Habitat Action Plan (HAP) ‘Cereal Field Margins’ (a UK Priority Habitat) and ‘Grass Field Margins’ are outlined together under the umbrella of Arable Field Margins, to reflect their key role in maintaining and increasing biodiversity in Rotherham. The focus of ‘cereal’ rather than ‘arable’ field margins in the national HAP reflects the dominance of cereals (defined as total area of crops, fallow and grassland less than five years old) amongst arable crops. Cereals account for 63% of the total area of arable land in England.

The term ‘cereal field margin’ is used to describe the strip of land lying between cereal crops and the field boundary, and extending a limited distance into the crop, which is actively managed to create conditions which benefit key farmland species. The principal types of field margins are:

- **Wildlife Strips** are adjacent to a cereal crop, together with a 1 metre ‘sterile strip’ between the wildlife strip and the crop. The wildlife strip is cultivated once a year but not cropped; the sterile strip is maintained so as to prevent aggressive arable weeds spreading into the adjacent crops.
- **Conservation Headlands** are either 6 metres or 12 metres wide forming the outer margin of the crop and are separated from an adjacent field boundary or other vegetation by a 1 metre ‘sterile strip’. The Conservation Headland is cropped with cereals but is managed with reduced inputs of pesticides so as to favour wild arable plants and invertebrates.
- **Combined Wildlife Strips and Conservation Headlands** that are separated by a sterile strip and managed as described above.
- **Game crops** are stubble or fallow grassland lying between annually cropped land and the field boundary.
- **Grass field margins** are grass strips, usually 2 or 6 metres wide (but even more valuable when much wider) lying between the arable crop and the field boundary. These margins are usually uncultivated natural grassland, self seeded, or sown with a carefully chosen seed mix with a diversity of perennial broadleaf plants. 6 metre grass margins are managed by the cutting and removal of vegetation once a year, after late July, as a ‘hay’ crop. 2 metre grass margins are managed by cutting once every three years to prevent scrub encroachment. (‘Beetle Banks’ are managed in the same way as 2 metre grass margins and are strips of land lying across larger arable fields that are uncultivated, but are not adjacent to the field boundary.) Where rare arable annuals such as Corn Marigold occur in field margins, then grass margins are not appropriate and a cereal margin should be used.

Grass field margins and conservation headlands, when managed together create optimum conditions for biodiversity. Field margins as described in this plan provide 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. There has been a massive decline in the distribution and abundance of these plants and associated invertebrates.
**Arable field margins**

**Extent**
- National: Unknown. Estimated resource based on average UK field size of 12ha suggesting approximately 400,000km of cereal field edge in the UK. Therefore a potential 200,000ha of 6 metre managed margin could be brought into sensitive management. The UK supports conservation headlands, grass strips, buffer strips, uncropped wildlife strips and beetle banks. Areas of this habitat will vary.
- Yorkshire and Humberside: Unknown. Farms in the Countryside Stewardship Scheme held approx. 18% of the length of English cereal margins in 1998.
- Rotherham: Unknown. Arable crops account for 74.5% of the agricultural land in Rotherham. 66% of this area can be classified as Cereals (e.g. Wheat, Winter Barley, Spring Barley), slightly more than the national average. A number of farms in Rotherham currently manage 2 and 6 metre grass field margins as part of the Countryside Stewardship Scheme. A number of holdings also manage field margins either as short or longer term projects such as 20 metre wide set-aside strips and game strips.

**Priority**
- National: HIGH. UK Habitat of Conservation Priority.
- Yorkshire and Humberside: Unknown. However, likely to be high considering the significant arable farming in the region.
- Rotherham: MEDIUM.

**Current factors affecting habitat In Rotherham**
- Intensification of cereal production, including the use of herbicides to ensure a weed free monoculture, and summer use of insecticides, resulting in diminished species diversity.
- The shift to winter cropping and the associated loss of winter stubble.
- The reduction in rotation of cereal crops with other land covers (including grass leys and fallows).
- The reduction in the undersown area associated with the shift to winter cropping. Undersown cereal crops are important for overwintering sawflies.
- Grass field margins with minimal or inappropriate management.

**Current Action In Rotherham**

**Legal Status**
- Arable Field Margins have no specific legal protection or status.
- Under the Food and Environmental Protection Act 1985 it is illegal to spray pesticides into hedge bases.
- Under the current procedures for pesticide registration and review, some compounds have statutory label exemptions preventing their use on the outermost 6 metre wide strips of crops. These restrictions are designed to prevent overspraying of watercourses and protect non-cropped habitats.
- Arable Field Margins are targeted under the environmental land management scheme "Countryside Stewardship". Margins created under this scheme are tied into a 10 year agreement with strict management guidelines to be followed by the farmer. This includes managing a conservation headland of at least 6 metres in width to Game Conservancy Guidelines where a cereal crop is grown, if conditions are appropriate.

**Management, research and guidance**
- Arable Field Margins are targeted under the Countryside Stewardship Scheme. Funding is available to support 2 and 6 metre grass margins or beetle banks and to manage adjacent margins with little or no fertilizer/pesticide input. Farmers can meet their set-aside requirements by setting-aside field margins of a minimum 20 metre width. The scheme literature advises them on how best to manage the margins to benefit wildlife. A number of local farmers set out their set-aside allocation in this way.
- Some strips have been created locally on farms for the benefit of game bird rearing/cover on a voluntary basis. Nationally some 1530km (175ha) of conservation headlands have been established by some 100 farmers under initiatives encouraged by the Game Conservancy Trust. It is not known how many, if any, of these are in Rotherham.

**Objectives**
- Increase the area of field margins to 18ha (equivalent to 30km of 6m margin) by 2010.
- Reduce pesticide and fertilizer application on field margins and crop edges.
- Increase the public’s awareness of the habitat value of field margins.
- Increase the knowledge of biodiversity of field margins on farms in Rotherham.

**Proposed Actions**

**Policy and Legislation**
- Lobby for an expanded Countryside Stewardship or equivalent Agri-environment scheme to fund positive conservation incentives and increased grant aid for the creation and sympathetic management of field margins.
- National: HIGH. UK Habitat of Conservation Priority.
- Yorkshire and Humberside: Unknown. However, likely to be high considering the significant arable farming in the region.
- Rotherham: MEDIUM.

**Situ Management, Safeguard and Land Acquisition**
- Investigate contributing towards the creation of cornfield annual strips, alongside high profile roads/Rotherham ‘gateways’. Action: RMBC.
- Review management of field margins owned or managed by Rotherham BAP partners in light of research findings. Action: RMBC.
- Use demonstration farms to highlight the importance of field margins and how they can be a part of a commercially run farm. Action: RMBC, FWAG.

**Advisory**
- Provide advice to farmers/landowners on field margin management. Action: FWAG, RMBC, DEFRA.
- Support and retain/increase existing adviser staffing in the area. Action: RMBC.
- Promote take-up of the field margins option under Countryside Stewardship. Action: FWAG, RMBC, DEFRA.

**Future Research and Monitoring**
- Encourage local research/survey of field margins. Action: RMBC, DEFRA.
- Survey existing field margins to determine their quality and biodiversity. Action: RMBC, RDOs, YNU.
- Initiate at least one new Common Bird Census, one small mammal survey and one invertebrate survey for whole farm Arable Field Margins. Action: RMBC, RDOs, SK58, YNU.

**Communication and Publicity**
- Promote management of field margins through farm walks. Action: RMBC, FWAG, MAFF.
- Seek opportunities to promote good field margin management through the media. Action: RMBC, FWAG, MAFF.
- Investigate sponsorship opportunities with seed suppliers. Action: RMBC, Local Industry.
- Increase public awareness by the inclusion of the habitat in interpretive material concerning Rotherham’s Biodiversity. Action: RMBC, FWAG, MAFF.
**Implementation**

**Sources of possible Funding and Advice**
- FWAG, MAFF, English Nature, Game Conservancy Trust.

**Benefits**
- ‘Field margins can add a vibrancy to our Borough’s landscape, a linear re-creation of a bygone age where wildlife thrived and prospered in our countryside - butterflies and birds abounded in and around causeways of grasses and flowers alongside crops of wheat and barley’.
- Plants that would benefit from cereal margin management include; Pheasants Eye, Corn Marigold, Corncockle, Cornflower. These plants were recorded in Rotherham over 100 years ago and they could return given a suitable growing environment.
- Many invertebrates would benefit directly and indirectly including butterflies such as Orange Tip. 16 other butterflies use cereal fields margins but do not breed in the crop. The plant and invertebrate populations which inhabit cereal and grass margins could benefit a range of birds such as Grey Partridge, Corn Bunting, and mammals such as Brown Hare.
- Grass margins also bring additional conservation benefits, for instance acting as pollution buffers between arable land and water courses.

**Links with other Action Plans**
- Species: Brown Hare, Grey Partridge, Song Thrush, Skylark, Tree Sparrow, bats.
- Habitats: hedgerow.
Lowland Acid Grassland

Description

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. In terms of the National Vegetation Classification (NVC) it includes the Sheep's-fescue - Bent - Sheep's Sorrel (U1), Wavy Hair-grass (U2) and Sheep's-fescue - Bent - Heath Bedstraw (U4) NVC grassland plant communities. Definition of Lowland Acid Grassland is problematic, 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. It is normally managed as grazing pasture.

Species-richness and abundance vary tremendously depending on community type and locality and can range from less than 5 species to over 25 species per m². Heath Bedstraw, Sheep's-fescue, Common Bent, Sheep's Sorrel, Wavy Hair-grass, Bristle Bent and Tormentil are frequent in Rotherham sites. Dwarf shrubs such as Heather and Bilberry 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. The bird fauna of Acid Grassland is very similar to that of other lowland dry grasslands. In Rotherham this includes ground-nesting birds such as Meadow Pipit, Skylark and Lapwing as well as Green Woodpecker. Many of the invertebrates that occur in Acid Grassland are specialists, which 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.

Extent

- National: Estimated 30,000ha in the UK of which 15,000-22,000ha occurs in England.
- Yorkshire and Humberside: Estimated 160-750ha of which 7% is in South Yorkshire.
- Rotherham: Extent unknown although primarily found within the Coal Measures Natural Area. Known sites include several LNRs and Country Parks, Ravenfield Park, Wentworth Estate and land owned by the EA.

Priority

- National: HIGH. UK BAP habitat of conservation priority.
- Yorkshire and Humberside: HIGH. Priority habitat for the Coal Measures Natural Area.
- Rotherham: HIGH.

Current factors affecting habitat in Rotherham

- Habitat fragmentation increases the risk of habitat degradation and associated (local) species extinction.
- Pressure from development 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 such as grazing or mowing can lead to the establishment of rank vegetation (for instance Bracken) and scrub encroachment.
- 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.
Small, discreet areas are protected within Maltby Low Common SSSI, Keppel’s Field LNR and Firby Reservoirs LNR. Acid Grassland is a Key Habitat as identified in Rotherham’s UDP.

Management, Research and Guidance
- Management plans have been developed for many of the areas supporting Acid Grassland within Council ownership, including LNRs.
- Good management has been secured by the promotion of the Countryside Stewardship Scheme and other schemes with landowners including YWT, RMBC, EA and Wentworth Estates.
- Re-creation of Acid Grassland under arable reversion through the Countryside Stewardship Scheme.

Objectives
- Maintain the current extent of Lowland Acid Grassland in favourable conservation status.
- Identify the extent and status of Acid Grassland in Rotherham.
- Restore neglected/mismanaged grassland through active management.
- Secure favourable conditions over 30% of the Borough’s resource by 2005.
- Ensure that grassland habitats are fully recognized within development plans and afforded appropriate protection.
- Develop community awareness of Acid Grassland and its importance to biodiversity in Rotherham.

Proposed Actions
- Ensure that significant areas of Lowland Acid Grassland are protected and seek opportunities to create new areas through approved development. Action: RMBC, CPRE, EN, SNHS, YNU, RNS, RUWG, YWT.
- Identify key sites within Rotherham. Action: RMBC, CPRE, SNHS, YNU, RNS, RUWG, YWT.

Site Management, Safeguard and Land Acquisition
- Declare Local Nature Reserves on relevant areas or instigate other measures for their protection. Action: RMBC.
- Promote the uptake of positive management with managers and landowners of Lowland Acid Grassland. Action: RMBC, FWAG, DEFRA, FC, EN, EA.
- Research to ascertain the true extent of this habitat within Rotherham. Identify, map and survey all the unimproved grasslands within Rotherham Borough. Action: EN, SYF, RMBC, EA.
- Use of demonstration sites to highlight the importance of unimproved grasslands and how they can be managed as a part of a commercially run farm. Action: RMBC, FWAG, RSPB.

Advisory
- Encourage, develop and disseminate best practice for Lowland Acid Grassland management, in particular the integration of conservation management into agricultural practice. Action: RMBC, FWAG, SYF, MAFF, EN, YWT.
- Provide advice to landowners on Lowland Acid Grassland management. Support and retain existing advisory staff in the area, Action: RMBC, SYF, CoAg.
- Promote grassland management options within Agri-environmental schemes. Action: FWAG, FC, RMBC, DEFRA.

Future Research and Monitoring
- Survey Acid Grasslands to determine their quality and management requirements, allowing a targeted approach to be developed. Promote local research and study of Acid Grasslands. Action: RMBC, YWT, SNHS, YNU, RNS, RUWG.
- Survey Acid Grasslands for characteristic associated species such as Skylark, Lapwing, small mammals and invertebrates. Action: SNHS, YNU, RNS, RUWG, RDOS, SB SG, RMBC, YWT.

Communication and Publicity
- Promote good management of Acid Grasslands through events, organized walks with Rotherham’s landowners, press releases and articles in local and national media. Action: SNHS, YNU, RNS, RUWG, RDOS, SB SG, RMBC, YWT.

Implementation Sources of Possible Funding and Advice
- FWAG, MAFF, EN, FC.

Benefits
- Improvement in overall biodiversity and aesthetic quality of the landscape.
- Restoration of good agricultural practice/land management to previously neglected urban fringe land.
- Better understanding and more interest in the unimproved grassland habitats, their management and contribution to Biodiversity.

Links with other Species and Habitat Action Plans
- Habitat Action Plans: Hedgerows, wet grasslands, neutral (lowland meadow) grasslands, Floodplain Grazing Marsh, lowland dwarf shrub heathland.
**Lowland Neutral Grassland**

**Description**

Lowland Neutral Grasslands includes lowland meadows, pasture, and wet neutral meadows. In terms of NVC plant communities, the range of Neutral Grassland within Rotherham includes the MG1 False Oat-grass grasslands, MG5 Crested Dog’s-tail - Black Knapweed grassland, MG4 Meadow Foxtail - Great Burnet grassland, MG6 Rye-grass - Crested Dog’s-tail grassland and MG9 Yorkshire-fog - Tufted Hair-grass grassland. This plan concentrates on meadows and pastures associated with low-input nutrient regimes and covers the major forms of Neutral Grassland (MG4 and MG5) which have a specialist group of scarce and declining plants.

This plan is not restricted to grasslands cut for hay but also takes into account unimproved 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 grasslands are less frequent but additional examples may be found in recreational sites, churchyards, roadside verges (MG1) and a variety of other localities.

The MG7 Rye-grass grasslands are managed for grazing and also silage production. Where fertilizer input is relaxed or in swards which have only been partially improved, MG6 grassland is common; in many respects this is intermediate between improved and unimproved Lowland Neutral Grasslands but has few uncommon plants and is generally of low botanical value.

**Extent**

- National: Less than 15,000ha of species-rich Neutral Grassland. Unimproved Neutral Grassland has undergone a remarkable decline in the 20th Century, almost entirely due to changing agricultural practice. It is 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 ha. Losses have continued during the 1980s and 1990s and have been recorded at 2.1% per annum in some parts of England. Extensive agricultural modification of unimproved grasslands has also been recorded in Scotland between the 1940s and 1970s. Recent conservation survey findings in Britain and Northern Ireland reveal that the impact has been pervasive.

  The overall outcome of habitat change in the lowland agricultural zone is that the mainstream community of unimproved hay meadows and pastures is now highly localized, fragmented and in small stands over much of Britain. Recent estimates for MG5 grassland in England and Wales indicate that there is between 5,000 - 10,000ha of this community in total.

  - Yorkshire and Humberside: Unknown.
  - Rotherham: Unknown. Lowland Neutral Grassland is found across the Borough within the Coal Measures and Southern Magnesian Limestone Natural Areas. There is no accurate figure relating to the total extent or location of Neutral Grassland in the Borough. Several of the LNR and sites on the Heritage Sites Register support this habitat. Several areas are within private ownership.

**Priority**

- National: HIGH. UK BAP habitat of conservation priority.
- Yorkshire and Humberside: Unknown.
- Rotherham: HIGH.
Promote the uptake of positive management with managers and landowners of Lowland Neutral Grassland. Promote appropriate grazing management.

Action: RMBC, FWAG, NFU, DEFRA, FC, EN.

Review the management of roadside verges to make sure that sympathetic management practices are adopted where possible.

Action: RMBC.

Research to ascertain the true extent of this habitat within Rotherham. Identify, map and survey all the unimproved grasslands within the Borough.

Action: EN, SYF, RMBC, EA.

Identify potential target sites for restoration of semi-improved grassland to unimproved grassland.

Action: RMBC, MAFF, FWAG, EN, YWT.

Use of demonstration sites to highlight the importance of unimproved grassland and how they can be managed as part of a commercially run farm.

Action: RMBC, FWAG.

Current Action In Rotherham

Legal Status

Neutral Grasslands are protected within Keppel’s Field LNR, Warren Vale LNR, Firsby Reservoirs LNR and Maltby Low Common SSSI and LNR.

Neutral Grassland is a Key Habitat as identified in Rotherham’s Unitary Development Plan (UDP).

Management, Research and Guidance

Management Plans have been developed for many of the areas supporting Neutral Grassland within Council ownership. Firsby Reservoirs, Ormidge Park, Keppel’s Field, Meadowgate Lake and Barber’s Lane Meadows and Kilnhurst Ings amongst others.

LNR declarations have been made for several sites including Firsby Reservoirs and Keppel’s Field.

Securing good management through promotion of the Countryside Stewardship Scheme. Partnership working with other landowners including YWT, RMBC, EA, Local Estates and landowners.

Re-creation of Neutral Grassland by ‘arable reversion’ in Rotherham through the Countryside Stewardship Scheme, RMBC, FWAG, DEFRA.

Objectives

Maintain current extent of Lowland Neutral Grassland in favourable conservation status.

Identify the extent and status of Neutral Grassland in Rotherham.

Restore neglected/mismanaged grassland through active management.

Secure favourable conditions over 30% of the resource by 2005.

Ensure that grassland habitats are fully recognized within development plans and are afforded appropriate protection.

Develop community awareness of Neutral Grassland and its importance to Biodiversity in Rotherham.

Proposed Actions

Policy and Legislation

Ensure that significant areas of Neutral Grassland are protected and seek opportunities to create new areas through approved development.

Action: RMBC, CPRE, LNGs, YWT.

Identify key sites within Rotherham.

Action: RMBC, CPRE, LNGs, YWT.

Ensure that grant aided tree planting schemes avoid important sites.

Action: SYF, RMBC, FWAG, MAFF, FC, YWT.

Site Management, Safeguard and Land Acquisition

Declare LNRs on relevant areas or instigate other measures for their protection.

Action: RMBC.

Advisory

Encourage, develop and disseminate best practice for Lowland Neutral Grassland management, in particular the integration of conservation management into agricultural practice.

Action: RMBC, FWAG, SYF, MAFF, EN, YWT.

Provide advice to landowners on Lowland Neutral Grassland management.

Support and retain existing advisory staff in the area.

Action: RMBC, SYF, CoAg.

Promote grassland management options within Agri-environmental schemes.

Action: RMBC, FWAG, FC, RMBC.

Future Research and Monitoring

Survey Neutral Grasslands to determine quality and management requirements, allowing a targeted approach to be developed. Promote local research and study on Neutral Grasslands.

Action: RMBC, YWT, LNGs.

Survey Neutral Grasslands for characteristic associated species such as Skylark, Lapwing, small mammals and invertebrates.

Action: LNGs, RDOS, SBSG, RMBC, YWT.

Communication and Publicity

Promote good management of Neutral Grasslands through events, organized walks with landowners, press releases and articles in local and national media.

Action: LNGs, RDOS, SBSG, RMBC, YWT.

Implementation

Sources of Possible Funding and Advice

FWAG, MAFF, EN, FC, RMBC.

Benefits

Improvement in overall Biodiversity and aesthetic quality of the landscape.

Restoration of good agricultural practice and land management to previously neglected urban fringe land.

Better understanding of, and more interest in, the unimproved grassland habitats, their management and contribution to Biodiversity.

Links with other Action Plans

Species: Lowland meadows are an important habitat for a number of farmland birds, including Skylark, Lapwing, Song Thrush, Grey Partridge and also the Brown Hare.

Habitats: Hedgerows, Lowland Acid Grasslands, Floodplain Grazing Marsh and Wet grassland.
Calcareous Grassland

Description

Calcareous Grassland is 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 Calcareous Grassland that forms on the well-drained and thin, base-rich soils is of national importance as it supports a range of grasses, herbs and animals not found on other grasslands.

The two commonest grasses are Tor-grass and Upright Brome. Lime-loving plants include Carline Thistle, Stemless Thistle on the northern limit of its range, Salad Burnet, Cowslip, Small Scabious, Greater Knapweed, Yellow-wort, Centaury and Spring-sedge. Autumn Lady's-tresses, Pale St. John's-wort, Spring-sedge and Grass-of-Parnassus are all grassland plants of particular interest and rarity. NVC plant communities include CG3 Upright Brome and CG4 Tor-grass grasslands.

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 notable invertebrates including the Glow-worm, which is in decline nationally.

Extent

- National: Approximately 50,000ha.
- Yorkshire and Humberside: Approximately 9000ha, which accounts for 20% of national resource.
- 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.

Priority

- National: HIGH. UK and European Habitat of Conservation Priority.
- Yorkshire and Humberside: HIGH. Priority habitat of Southern Magnesian Limestone Natural Area.
- Rotherham: HIGH.

Current factors affecting habitat in Rotherham

- Lack of appropriate management, including overgrazing or habitat succession due to lack of grazing.
- High management costs of small sites, sometimes with difficult terrain and low profitability.
- Increased risk of local extinction, with little probability of recolonization due to habitat fragmentation and isolation and the very small size of remaining sites.
- Direct and indirect development pressures.
- Inappropriate use of sites, including vandalism, makes appropriate management more difficult.
- Agricultural intensification, including a shift towards silage production, spring and summer grazing, increased pesticide and herbicide use, have put pressure on good-quality sites.
- Agricultural improvement has been an historic factor resulting in the decline of the local resource, although this may be of less relevance now.
- Recreation pressures can bring about changes in the vegetative structure due to soil compaction etc.
- Lack of seed sources of local provenance for reintroduction and re-creation.

Current Action in Rotherham

Legal Status

- Some sites are statutorily protected as SSSIs and LNRs.
Management, research and guidance

- Local naturalists continue to survey old and new sites of conservation interest and lodge records with Rotherham BRC.
- Designated sites are under management agreements between EN/RMBC and landowners/managers.
- Some sites are managed sensitively by landowners/managers.
- Farming and wildlife advisers from the statutory and voluntary sector are seeking to implement appropriate management with landowners/managers in the best interests of nature conservation.
- There is a continuing programme of educational visits for the public and professionals.

Objectives

- Maintain and safeguard the current habitat resource.
- Achieve favourable management on all remaining sites.
- Enhance and extend the habitat in the Rotherham area.
- Increase the average site size by 25% by 2010.
- Identify and achieve sustainable populations of Key Species on sites.

Proposed Actions

Policy and Legislation

- Review the possibility of site designation (SSSI/LNR) of important sites.
  Action: EN, RMBC.
- Ensure that important sites are protected from development pressure.
  Action: RMBC.

Site Management, Safeguard and Land Acquisition

- Survey the resource and identify/map all sites.
  Action: RMBC, Local Groups.
- Identify sites most at risk of loss/decline.
  Action: RMBC, Local Groups.
- Investigate the feasibility of developing a machinery ring to manage sites.
  Action: RMBC, EN, Local Groups.
- Support the acquisition of neglected sites by appropriate bodies.
  Action: RMBC, EN, Local Groups.
- Identify possible areas for expansion of existing sites and ‘stepping stone’ sites.
  Action: RMBC, EN, Local Groups.
- Develop a programme of targeted promotion of Countryside Stewardship, prioritizing those sites most at risk.
  Action: RMBC, EN, DEFRA, FWAG, Local Groups.
- Investigate the possibility of developing a ‘roving flock’ to graze small sites.
  Action: RMBC, EN, Local Groups.
- Develop a publicity programme promoting knowledge of the habitat and its management requirements through press releases, advisory leaflets, demonstrations and training days.
  Action: RMBC, EN, Local Groups, FWAG, BTCV, landowners/managers.
- Develop a local management action programme to assist management of sites.
  Action: EN, RMBC, BTCV, FWAG, Local Groups.
- Develop a programme of targeted promotion of Countryside Stewardship arable reversion options on these sites.
- Ensure that management of sites incorporates consideration of Key Species.
- Develop Species Action Plans for Key Species as required.
  Action: RMBC, EN, Local Groups.

Future Research and Monitoring

- Identify Key Species and assess their extent and populations on sites.
  Action: RMBC, EN, Local Groups.
- Ensure sustainable populations of Key Species on sites.

Communication and Publicity

- Make use of opportunities to promote and develop new sites through landscaping and planning conditions.
  Action: RMBC, EN.

Implementation

Sources of possible Funding and Advice

- EN, RMBC, DEFRA, YWT, Local Groups, BTCV, FWAG.

Benefits

- Improvement in overall biodiversity and the aesthetic quality of the landscape.
- Grasslands are readily accessible with many rare and common species making them ideal habitats for educational and environmental studies.

Links with other Action Plans

- Species: none.
- Habitats: Mixed Ash Woodland.
Lowland Heath
Description

Lowland Heath is found across western Europe usually in regions with mild winters, high rainfall and with a temperate, oceanic climate. It is found below 300 metres altitude and is dominated by heathers and/or dwarf gorses. Lowland Heaths normally require acidic soils with low soil nutrients, although they can occur on more basic soils with herbs commonly associated with calcareous grasslands. Several types of Lowland Heath exist, with dry heath on rocky soils, wet heath on wet areas, and dune and maritime heaths occurring on the coast. Although a relatively species-poor habitat, Lowland Heath is associated with numerous birds, reptiles, invertebrates, bryophytes and lichens which add to the importance and interest of the habitat.

Lowland Heaths are dynamic and are frequently associated with other habitat types such as scrub and acid grassland which, without active management, can become dominant.

The NVC describes different types of British heathland communities. In Rotherham the main NVC communities are Heather - Tufted Hair-grass (H8) and Heather - Sheep's-fescue (H1) heaths.

Extent

- National: Approx. 58,000ha of which England holds the largest proportion (c. 55%) with the south west, south coast and south east of England being the most important regions. The UK holds about 20% of the international resource.
- Yorkshire and Humberside: Approximately 11,000ha.
- Rotherham: Unknown. Lowland Heath is a rare habitat in Rotherham. Where it does occur it is in small isolated patches usually within a habitat mosaic of acid grassland, woodland and/or flushes.

Priority

- National: HIGH. UK BAP Habitat of Conservation Priority and listed on the European Habitats Directive. Lowland Heath is rare and threatened, with approximately 85% of England's resource being lost since the 1800s.
- Yorkshire and Humberside: HIGH. Priority habitat in Coal Measures and Southern Magnesian Limestone Natural Areas.
- Rotherham: HIGH. Rotherham's heaths are vulnerable due to their small and isolated nature.

Current factors affecting habitat in Rotherham

- Encroachment. Without active management Lowland Heath is quickly encroached by scrub and continual ecological succession with the subsequent loss of heath community interest.
- Development pressure. Inappropriate development can lead to habitat destruction and further fragmentation.
- Neglect/inappropriate management. The cessation of traditional management can lead to increased soil nutrient levels. Nitrogen deposition from rainwater can also occur.
- Habitat fragmentation increases the vulnerability of sites reducing their long-term viability.
- Recreational pressure such as trampling and erosion from bikers, horses and walkers can have negative impacts on heathland and associated communities.
- Uncontrolled and too frequent burning, especially arson, can damage heaths.
- Nationally, inappropriate agricultural management such as improvement and over-grazing can have deleterious impacts on heathland.
### Current Action in Rotherham

**Legal Status**
- Included in the Habitat Directive and identified as a Key Habitat in the UDP.
- Some sites where heath vegetation occurs are afforded protection through site designations such as Keppel's Field LNR, Warren Vale LNR and Maltby Low Common SSSI and LNR.

**Management, research and guidance**
- Active management is included in management plans for some RMBC sites.
- Management agreements are resulting in heath management at some sites. Countrywide Stewardship Scheme and the Woodland Grant Scheme recognize the importance of Lowland Heaths within wider habitat mosaics.

**Objectives**
- Identify the extent and status of Lowland Heath in Rotherham.
- Ensure that important heathland sites are adequately protected.
- Maintain current sites in favourable conservation status.
- Reinstate appropriate management at neglected/inappropriately managed sites.
- Develop community awareness of Lowland Heaths and their importance to local biodiversity.
- Identify, where appropriate, sites suitable for heathland restoration or creation.

**Proposed Actions**

**Policy and Legislation**
- Ensure that heathland sites are appropriately managed and afforded such protection as is required. Action: RMBC, YWT, EN.
- Develop a site inventory to make sure all known sites are afforded relevant protection. Action: RMBC.
- Make certain that legislation on public access takes proper account of the nature conservation importance of Lowland Heathland. Action: RMBC, YWT, EN.

**Site Management, Safeguard and Land Acquisition**
- Safeguard remaining areas of heathland by ensuring afforded protection is enforced. Action: RMBC.
- Promote the uptake of positive management with landowners/managers. Action: RMBC, FWAG, EN, YWT.
- Identify suitable sites for the expansion/creation of heathlands. Action: FWAG, EN, RMBC, RNS.

**Advisory**
- Distribute management advice and information to landowners/managers. Action: RMBC, FWAG.

**Future Research and Monitoring**
- Ascertain the current extent, quality and management of Lowland Heathlands. Action: RMBC.
- Monitor the status of heathland sites in Rotherham. Action: RMBC, RNS, YWT, RDOS, SK58.

### Communication and Publicity

- Promote heathland management and available funding to landowners/managers. Action: EN, RMBC, FWAG, FC.
- Promote the importance of heathlands to the public and community groups. Action: RMBC, RNS, RDOS, SK58, YWT.
- Provide formal and informal local training on the management, ecology and conservation of heathlands to landowners/managers and community groups. Action: FWAG, RMBC.

### Implementation

**Sources of possible Funding and Advice**
- EN, FC, RMBC, FWAG, SNHS, YNU, RNS, CPRE.

### Benefits

- Safeguard and enhance biodiversity.
- Protect, maintain and enhance valuable biodiversity, historic, cultural and landscape features.
- Improved public understanding and interest in heathland management and biodiversity.

### Links with other Action Plans

- Species Action Plans: none
**Floodplain Grazing Marsh**

**Description**

Grazing Marsh is defined as periodically inundated pasture or meadow with ditches that control water levels. Traditionally the marsh is managed by grazing and in some cases hay or silage cutting. Sites may also contain seasonal water-filled hollows and permanent ponds with emergent swamp communities. The ditches may support richly diverse communities of plants and invertebrates, even though the pasture may have been agriculturally improved. The defining characteristic is the interlinking of wet grassland and ditch communities.

**Extent**

- **National:** Exact extent unknown although total resource, including coastal marsh, estimated at 300,000ha. England holds the largest resource, approximately 200,000ha, although only a small proportion (5,000ha) of this is semi-natural, supporting a high botanical diversity.
- **Yorkshire and Humberside:** Unknown. Historically the River Rother and the lower Don and Dearne catchments consisted of wide valleys with flat alluvial floors that were subject to frequent and widespread flooding. This supported large areas of Grazing Marsh and associated wetlands. Only tiny fragments of this formerly extensive area remain.
- **Rotherham:** Information from an aerial survey carried out in the Borough in 1981 identified approximately 18ha of marshland. It is unclear how much of this can be described as Grazing Marsh. Important sites include the Rother valley, Langold, Firbeck, Ravenfield, Rawmarsh and Kilnhurst although small fragments remain in the upper reaches of some local catchments.

**Priority**

- **National:** HIGH. UK BAP habitat of Conservation Priority. There have been significant losses of the habitat since the 1930s in line with the decline of unimproved grassland generally (over 90% reduction).
- **Yorkshire and Humberside:** MEDIUM.
- **Rotherham:** HIGH. Industrialization and urbanization began the decline in the extent and quality of the habitat. This decline has accelerated since the 1950s with the added pressure from the construction of flood defence schemes. For example, 70% of the main River Rother system has been modified for flood defence and it is unclear how viable or vulnerable the remaining 15 sites are.

**Current factors affecting habitat In Rotherham**

- Industrial and residential development. Increasing pressure for land for development, the continuing need for flood defence mechanisms and the increased demand on water resources continues to have a severe impact on the long term existence and viability of the habitat.
- Agricultural intensification and neglect. Inappropriate management of the Grazing Marshes by increased drainage, applications of fertilizer, etc and abandonment of traditional grazing patterns continues to lead to the loss of the habitat.
- Eutrophication and pollution. Increasing use of fertilizers, herbicides, pesticides and other pollutants within the catchment area which feeds the marsh may disrupt the nutrient and pollutant balance, this leads to a deterioration in the quality of the habitat.
- Habitat fragmentation and the small size of the sites contributes towards the pressure exerted on these habitats and their associated plants and animals.
Current Action in Rotherham

Legal Status

- Sites may be protected indirectly through pollution control and duties upon statutory bodies to have regard for conservation (e.g. with flood defence).
- Identified as a Key Habitat in the UDP and afforded protection through appropriate policies.

Management, Research and Guidance

- National schemes such as the Countryside Stewardship Scheme support the continued appropriate management of Grazing Marshes.
- The regional Environment Agency’s LEAP document recognizes the conservation value of the habitat.
- Rotherham Metropolitan Borough Council and the Yorkshire Wildlife Trust are members of the River Rother Wildlife Strategy Group which provides a conservation overview for the whole of the River Rother catchment area.
- Dearne Valley Partnership is promoting the appropriate management of Floodplain Grazing Marsh and wider floodplain habitats in the Dearne catchment area.
- Work on Rotherham’s sites is continuing the management of their ecological interest.

Objectives

- Determine the extent and viability of the habitat within the Rotherham BAP area.
- Identify suitable areas for restoration or creation of the habitat within the Rotherham BAP area.
- Maintain and where possible increase the existing habitat through conservation management and site protection.
- Increase the awareness of landowners/managers, voluntary organizations and the general public about the value and fragility of Grazing Marsh.

Proposed Actions

Policy and Legislation

- Support the enforcement of current legislation.
  Action: RMBC, YWT, EA, SNHS, YNU, RUWG.
- Campaign for the creation of tougher legislation to prevent further deterioration and loss of the habitat.
  Action: YWT, EA, RMBC.
- Ensure that all current resource and associated habitats are identified in UDP.
  Action: RMBC, EA, YWT, RUWG, SNHS.

Site Management, Safeguard and Land Acquisition

- Ensure that the habitat’s protection and enhancement are taken into account when considering the impact of any planning or development proposals that may threaten existing or potential sites.
  Action: RMBC, EA, YWT, RUWG, SNHS.
- Ensure that management plans are produced for all Grazing Marsh sites and where possible water level management plans are drawn up with the Environment Agency.
  Action: EA, RMBC.
- Establish and maintain links with landowners/managers and other interested groups.
  Action: RMBC, EA, YWT, RUWG, SNHS.
- Encourage recording and monitoring across these sites.
  Action: RMBC, EA, YWT, RUWG, SNHS, SK58, RDOS.

- Continue to support the work of the River Rother Wildlife Strategy Group.
  Action: RMBC, EA, YWT, SNHS, RUWG, SK58, RDOS.
- Consider the establishment or re-establishment of other Grazing Marsh sites.
  Action: EA, RMBC, YWT.

Advisory

- Support training on the conservation and management of the habitat.
  Action: RMBC, EA, YWT, RUWG, SNHS, SK58, RDOS.
- Develop and maintain links and an information exchange between all interested groups.
  Action: RMBC, EA, YWT, RUWG, SNHS, SK58, RDOS.
- Support the production of policy and good practice guidelines for the establishment and maintenance of the habitat.
  Action: RMBC, EA, EN.

Future Research and Monitoring

- Undertake a programme of surveys to identify current and potential Grazing Marsh sites.
  Action: RMBC, EA, YWT, RUWG, SNHS, SK58, RDOS.
- Support more detailed studies and monitoring exercises on the effects of managing existing sites and establishing new Grazing Marshes.
  Action: RMBC, EA, YWT, RUWG, SNHS, SK58, RDOS.
- Contribute towards the establishment and maintenance of national and regional databases by sharing records, the results of surveys and monitoring exercises.
  Action: RMBC, EA, YWT, RUWG, SNHS, SK58, RDOS.

Communication and Publicity

- Develop an information campaign to raise awareness amongst the general public through displays, leaflets and the local media.
  Action: RMBC, EA, YWT.
- Develop an interpretation package describing the value, use and fragility of Grazing Marshes at easily accessible sites.
  Action: RMBC, EA, YWT.
- Publicize the results of work and encourage the dissemination of information between all interested individuals, groups, statutory bodies and Rotherham Metropolitan Borough Council.
  Action: RMBC, EA, YWT.
- Support any initiatives to promote a wider and more sympathetic understanding of the conservation value of the habitat.
  Action: RMBC, EA, YWT, RUWG, SNHS, SK58, RDOS.

Implementation

Sources of Possible Funding and Advice

- EA, RMBC, FWAG, RSPB, YWT, SK58, RDOS.

Benefits

- Most sites play an important role in flood defence.

Links with other Action Plans

- Species: Great Crested Newt, Grass Snake, Water Vole, Otter, wading birds.
- Habitats: Neutral Grassland, rivers and streams, Ponds and Lakes.
Standing water includes natural systems, for instance lakes and pools, as well as man-made waters such as lakes, reservoirs, ponds and gravel pits. It includes the open water zone (which may contain submerged, free-floating and/or floating-leaved vegetation) and water fringe vegetation (< 5m wide). The transition between open water and land is often occupied by tall emergent vegetation called swamp, reedbed or carr woodland. In practice these communities often form a continuum. This Habitat Action Plan specifically includes seasonal ponds which dry out during the summer but are ecologically important.

Standing waters are usually classified according to their nutrient status and this can change naturally or as a result of pollution. Their nutrient status varies from low to high and intermediates occur, although water bodies in Rotherham are usually more eutrophic (nutrient rich) or mesotrophic (intermediate). Eutrophic water contains at least 0.035 mg/l total phosphorus (including phosphorus bound up in plankton) and 0.5 mg/l or more total inorganic nitrogen (mainly in the form of dissolved nitrates). Mesotrophic waters normally have 0.01-0.03 mg/l P and 0.3-0.65 mg/l N.

A dramatic decline in the number and condition of farm and village ponds has been reported nationally and it is likely that this trend has occurred in Rotherham. An increase in the number of garden ponds and fisheries has ameliorated this to some extent, although poor design, inappropriate stocking, etc often compromise the wildlife value of such ponds.

Lakes and ponds are important habitats because of the many species associated with them, including Otter, Water Vole, Great Crested Newt and many invertebrates and birds. The ODPM 1996 Lowland Pond Survey identified 50% of native wetland plants in the ponds which were surveyed.

### Extent
- National: Extent unknown. National HAP for Eutrophic Standing Water estimates 1785 km² excluding small pools, field ponds and brackish waters.
- Yorkshire and Humberside: Extent unknown.
- Rotherham: Over 800 standing water bodies with a combined area in excess of 300 ha are known but this largely excludes garden ponds that are known to be widespread and common.

### Priority
- National: HIGH. Eutrophic Standing Waters and Mesotrophic Lakes are UK BAP Habitats of Conservation Priority. A dramatic decline in the number and condition of smaller farm and village ponds has occurred nationally.
- Yorkshire and Humberside: HIGH. Eutrophic Standing Waters and Mesotrophic Lakes were identified as target habitats for the Coal Measures and Southern Magnesian Limestone Natural Areas respectively.
- Rotherham: HIGH. Ponds, including garden ponds, and lakes are important local biodiversity resources.

### Current factors affecting habitat in Rotherham
- Lack of appropriate management causing a decline in open water habitats due to successional development (e.g. siltation) into drier habitats such as wet woodland or wet grassland.
- Changes in land-use and agricultural practices e.g. in-filling of farm ponds due to agricultural intensification, loss of buffer zones along feeder watercourses and increased land drainage.
Ponds and lakes

- Pollution and enrichment by excessive nutrient input (eutrophication). Anthropogenic nutrient inputs include industrial and sewage effluent, point and diffuse sources associated with agriculture and forestry and accidental spillages (e.g. slurry).
- Exacerbation of eutrophication due to excessive water abstraction, leading to a reduction in the quantity of water reaching standing water bodies. This in turn affects the amount of time water remains in the lake, increasing the time available for nutrient uptake by aquatic macrophytes and algae, enhancing plant production.
- Introductions of fish leading to the alteration of the natural integrity of water bodies e.g. altering competition, species composition, nutrient mobilization and disturbance, including damage to emergent vegetation.
- In-filling of amenity ponds due to Health and Safety concerns.
- Introduction of non-native or invasive plants.
- Changing climatic patterns.

**Current Action In Rotherham**

| Legal Status | Legislation relating to the control of water include the Environmental Protection Act 1990, the Water Resources Act 1991, the Water Industry Act 1991, the Environment Act 1995, and the Pollution Prevention and Control Act 1999. The EC Nitrates and Water Framework Directives also incorporate the protection of the aquatic environment. | Ponds have been recognized as being of major importance for wild plants and animals by the Habitats Regulations, which require local planning policies to ensure their conservation and management. |
| Management, Research and Guidance | Ponds and lakes are currently being mapped prior to site assessment. A number of organizations including RMBC, EA, FWAG, DEFRA and CIRIA provide advice on management and habitat creation to landowners/managers, including schools and developers. Advice can be gained from DEFRA’s Code of Good Agricultural Practice on the Protection of Water. | The Conservation Trust and RMBC provide advice on management and habitat creation to landowners/managers, including schools and developers. Advice can be gained from DEFRA’s Code of Good Agricultural Practice on the Protection of Water. |
| Objectives | Identify ponds and lakes in Rotherham. Ensure that there is no net loss in the number of ponds and lakes in Rotherham. Make sure that landowners/managers are aware of the appropriate management of ponds and lakes to ensure that they remain in a favourable conservation condition. Maintain historic ponds in a good conservation condition. Seek to reduce the biological isolation of vulnerable ponds. | Promote the conservation of ponds and their associated species. Action: RMBC, FWAG, DEFRA, EA, YWT. Seek to reduce the biological isolation of vulnerable ponds. |
| Proposed Actions | Continued mapping of ponds and lakes. Encourage and advise on the appropriate management and design of existing and new farm ponds. Action: RMBC, FWAG, DEFRA. Encourage and advise on suitable management and design of new and existing fisheries. Action: RMBC, DEFRA, EA, YWT. Encourage and advise on the appropriate management and design of existing and new farm ponds. Action: RMBC, FWAG, DEFRA. Promote improved management of habitats adjoining ponds and grant schemes such as the Countryside Stewardship Scheme. Action: RMBC, FWAG, DEFRA, Local Groups. Identify important ponds and lakes for potential site acquisition and/or designation. Action: RMBC, YWT, Local Groups. |

**Site Management, Safeguard and Land Acquisition**


**Future Research and Monitoring**

| Promotion of the incorporation of Sustainable Urban Drainage Schemes in local developments as a mechanism for creating 'pondscapes'. Action: RMBC, EA, EN, DEFRA, YWT, Local Groups. |

**Communication and Publicity**

| Prevention of the incorporation of Sustainable Urban Drainage Schemes in local developments as a mechanism for creating 'pondscapes'. Action: RMBC, EA, EN, DEFRA, YWT, Local Groups. |

| Actions: RMBC, Local Groups. Promote the creation of ponds and lakes in land reclamation schemes. Action: RMBC, EN, DEFRA, YWT. |

| Actions: RMBC, Local Groups. Promote the creation of ponds and lakes in land reclamation schemes. Action: RMBC, EN, DEFRA, YWT. |

| Actions: RMBC, Local Groups. Promote the creation of ponds and lakes in land reclamation schemes. Action: RMBC, EN, DEFRA, YWT. |
Implementation
Sources of Possible Funding and Advice
- DEFRA, EA, EN, RMBC, YWT, Pond Conservation Trust, CIRIA.

Benefits
- Ponds and lakes are important habitats for a variety of important species and are readily acknowledged for their amenity value.

Links with other Action Plans
- Species: Otter, Water Vole, Great Crested Newt, Pipistrelle Bat, Pillwort, Common Tern, Mute Swan, Grey Wagtail.
### Oak-Birch Woodland Description

Rotherham’s Oak-Birch Woodlands are usually found on the acidic soils of the Coal Measures Natural Area. There is a predominance of Sessile Oak but occasionally Pedunculate Oak and Silver Birch are found in the canopy. Varying amounts of Holly, Rowan and Hazel make up the main understorey trees. The field layer varies dependent on variations in the soil type and past and current management practices but is normally species-poor. On the most acidic soils Bracken and Wavy Hair-grass dominate with Heather and sometimes Bilberry growing in canopy openings. On the less acid soils the plant diversity increases with Bramble, Creeping Soft-grass and Bluebell becoming more common. In terms of the NVC Rotherham’s Oak-Birch Woodlands tend to fall into either W10 Pedunculate Oak - Bracken - Blackberry woodland or W16 Oaks - Birches - Wavy Hair-grass woodland.

None of the Oak-Birch Woodlands in Rotherham exhibit the rich bryophyte communities and other distinguishing features of the upland Atlantic oakwoods of western Britain. This may be due to lower rainfall levels and/or historic air pollution from the area’s industrial past. Although not in the upland zone, Oak-Birch Woodlands in Rotherham may be viewed as the drier, more southerly counterparts of the Upland Oakwood identified in the UK BAP and are, therefore, a regional local key habitat. Many of Rotherham’s Oak-Birch Woodlands are ancient woodlands, making them highly significant for wildlife. However, clear-felling following the two World Wars has resulted in many of these woods being dominated by maturing, even-aged woodland. Silver Birch has much greater dominance in these regenerating woods as this is typical natural successional development of oakwoods.

There is a distinct lack of mature and ancient trees and their associated wildlife in these ancient woodlands throughout Rotherham. Many ancient woodland sites that would normally support this type of oakwood have been planted in the last 100-150 years with non-native trees, in particular Beech and Sweet Chestnut. Before the beginning of the 20th Century, most of Rotherham’s Oak-Birch Woodlands would have been managed as coppice with standards.

### Extent

- **National:** Approximately 70,000 - 100,000ha of Upland Oakwoods.
- **Yorkshire and Humber:** More than 2946ha (> 3% of national resource).
- **Rotherham:** Approximately 74ha of this type of woodland have been identified.

### Priority

- **National:** HIGH. Habitat of UK BAP Conservation Priority. Britain and Ireland have an internationally important resource.
- **Yorkshire and Humber:** HIGH. Priority habitat of Coal Measures Natural Area.
- **Rotherham:** HIGH.

### Current factors affecting habitat in Rotherham

- Clearance and conversion to other land-uses, in particular loss to agriculture, mineral extraction and development.
- Lack of recognition of the importance of ancient or biologically important woodlands and the lack of statutory protection.
- The felling of native trees and replanting with non-native ones such as Beech and Sweet Chestnut.
- Invasion by Rhododendron which restricts native flora and reduces the wildlife value of a wood.
The lack of recognition of the value of many Oak-Birch Woodlands as ancient woodlands due to the lack of mature trees.

Accessibility allowing high levels of recreation pressure, including abuse due to inappropriate activities such as motorcycling, fires, fly-tipping and vandalism.

Fragmentation and isolation of woodland sites, increasing their vulnerability.

Constraints on the expansion and linking of woodlands from development, agriculture and industry.

Cessation of traditional management, for instance coppicing, reducing the structural and wildlife diversity of the woods.

Lack of silvicultural management to bring the woodlands back into favourable condition and ensure their long-term survival.

Promote the special biological interests of Oak-Birch Woodlands.

Accessibility allowing high levels of recreation pressure, including abuse due to inappropriate activities such as motorcycling, fires, fly-tipping and vandalism.

Identify, protect and, where appropriate, expand Oak-Birch Woodlands.

Promote sustainable care and management of all Oak-Birch Woodlands.

Identify and maintain, or work towards favourable conditions for, all ancient Oak-Birch Woodlands in Rotherham.

Current Action in Rotherham

Legal Status

National forest policies seek to control both felling and broad-leaved woodland conversion and to maintain the interest of ancient semi-natural woodlands. A licence or permission under the Forestry Acts or Woodland Grant Scheme can afford some protection.

None of Rotherham’s sites are statutorily protected. Ancient oakwood sites in Birch Wood and Scholes Coppice are protected by LNR designation. There are no other statutory site designations in Rotherham specifically protecting woodland for biological interest.

Oak-Birch Woodlands at Canklow Woods, Wickersley Wood and Wath Wood may be afforded some protection through Tree Preservation Orders (TPO) regulations. ODPM guidelines state that woodlands may be included in TPOs in the interests of amenity. However, other factors such as importance as a wildlife habitat may be taken into account, which alone would not be sufficient to warrant a TPO.

National planning policies. Planning Policy Guidance Tools (1, 2, & 8) refer to sustaining and enhancing the environment with particular reference to ancient woodlands for the protection of wildlife.

65% of the Borough is designated as Green Belt, this is the most important Council policy for protecting and conserving the environment. The Green Belt Policy is a control mechanism for development but does not specifically afford protection to woodlands from inappropriate agriculture, forestry or recreation activities.

Ancient woodland is identified as a Key Habitat in the UDP and is thus afforded protection through the relevant policies.

The aims and objectives of South Yorkshire Forest, which include protecting sites of nature conservation value and creating new opportunities for nature conservation, are recognized in the UDP.

Management, Research and Guidance

A number of national woodland inventories are available which provide information on the type and extent of woodland cover, in particular the Forestry Commission’s National Inventory of Woodlands and Trees (started in 1996) and the former NCC Ancient Woodland Inventory (1986).

A number of local studies and surveys specific to Rotherham provide valuable research information and guidance at a local level.

All woodlands should be managed to meet the criteria laid out in the UK Forestry Standard.

Grants for, and advice on, management are available from the Forestry Commission through the Woodland Grant Scheme.

Habitat-specific advice for oakwoods is available in the Forestry Authority guide for oak woodland (Guide No. 5, 1994).

Area-specific information and guidance are available from English Nature for the Coal Measures Natural Areas (EN 1997).

Promote sustainable care and management of oakwoods in Rotherham in line with the UK Forestry Standard national criteria and by following the guidelines laid out in Forestry Practice Guide 5. The Management of semi-natural oakwood. Action: RMBC, EN, FC, SYF.

Encourage more owners to sustainably manage their Oak-Birch Woodlands by bringing them into the Woodland Grant Scheme, Countryside Stewardship or other appropriate schemes. Action: RMBC, FA, EN, SYF.

Integrate delivering the actions of the Oakwood HAP with other biological interests to ensure that no other important habitats are placed at risk through the implementation of this plan. Action: RMBC, FC, EN, SYF.

Reinstate traditional management regimes such as coppicing within ancient Oak-Birch Woodlands where appropriate. Action: FWAG, CoAg, MAFF, CPRE, landowners/managers.

Encourage appropriate silvicultural management to reinstate native trees on oakwood sites where plantation forestry has occurred. Action: FC, RMBC, CoAg, landowners/managers.

Encourage the expansion of future oakwood cover on the Coal Measures Natural Area by including appropriate native woodland planting in restoration schemes. Action: RMBC, SYF, YF.
Identify appropriate areas on which to extend and link existing Oak-Birch Woodlands, providing this doesn’t impact negatively on other important habitats (i.e. Acid Grassland and Lowland Heath), and identify appropriate funding mechanisms to support this. Action: RMBC, SYF, EN, FC, FWAG, CPRE, MAFF, CoAg.

**Advisory**

- Develop and promote demonstration sites showing best practice for the management of Oak-Birch Woodlands within Rotherham. Action: RMBC, FA, SYF, FWAG, CoAg.
- Provide formal and informal local training on the ecology, management and conservation of oak woodlands. Action: RMBC, ILM, EN, FWAG.

**Future Research and Monitoring**

- Ensure that ancient and biologically-important Oak-Birch Woodlands are given adequate protection through policy development. Ensure that statutory designations to protect woods for biodiversity are more wide-reaching. Action: RMBC, EN, ODPM.
- Identify and prepare an inventory of the current extent of oakwood in Rotherham. Action: RMBC, FC, EN, FWAG, MAFF, CoAg, BRC, SNHS, RNS, YNU, RUWG.
- Develop and implement simple but effective site monitoring for all ancient Oak-Birch Woodlands, to monitor factors such as extent, disturbance, threat and implementation of management to enable assessment of progress towards action plan targets. Action: FC, EN, EA, FWAG, RMBC, SNHS, RNS, YNU, RUWG.
- Develop biological monitoring schemes using indicator species to assess decline, development towards or maintenance of favourable conservation status of oakwood habitats. Action: EN, RMBC, SNHS, RNS, YNU, RUWG, FC.
- Identify and develop future local markets for woodland products derived from the sustainable management of woodland habitats. Action: FC, SYF, YF.
- Monitor the success of the Oakwood HAP in relation to delivering the targets of the associated species and habitat action plans. Action: EN, SBSG, SYBG, SNHS, RNS, YNU, RUWG, BRC, RMBC.

**Communication and Publicity**

- Promote the importance of sustainable woodland management for biodiversity, community, recreation, historical and landscape interests. Action: RMBC, SYF, FC.
- Develop a strategy for delivering advisory material to woodland owners and managers linking in with existing initiatives such as the South Yorkshire Forest. Action: RMBC, SYF, FC.
- Provide educational and interpretation materials to local schools and communities using available resources, for instance the Forest Education Initiative, Get Set Grow and Fuelling a Revolution Heritage Lottery Fund Award. Action: RMBC, SYF, FC.
- Develop and encourage community support, partnerships and co-operation to deliver the Oakwood Action Plan. Action: RMBC, SYF, SNHS, RNS, YNU, RUWG, local community groups.
- Identify and monitor sustainability and biodiversity indicators for Oak-Birch Woodlands. Action: EN, FC, RMBC, SNHS, RNS, YNU, RUWG.

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**Implementation**

**Sources of Possible Funding and Advice**

- FA, EN, MAFF, CoAg, EA, BW, ODPM, SYF, CPRE, FWAG, YF, European funding (SRB, Objective 1 etc.), YF, Heritage Lottery Fund.

**Benefits**

- Safeguard and enhance biodiversity.
- Protect, maintain and enhance valuable biodiversity, historic, cultural and landscape features.

**Links with Species Action Plans and Habitat Action Plans**

- Species: Badger, Pipistrelle Bat, Noctule Bat, Bluebell.
**Wet Woodland**

**Description**

Wet Woodland occurs on poorly-drained or seasonally-wet soils with a range of nutrient and pH status. In the wetter areas Alder and willows are dominant. Ash, Pedunculate and Sessile Oaks, and Silver and Downy Birches become more frequent in the transitional zone between the Wet Woodland and other woodland habitats. In localized areas Aspen may be dominant. The non-native and potentially invasive Sycamore is also frequent within many Wet Woodlands. English and Wych Elms may have been more common in wet wood transitional zones in Rotherham prior to Dutch Elm disease.

Wet Woodlands are frequently narrow, linear strips or small fragments which are generally associated with watercourses, floodplains, springs and wet flushes. In Rotherham, they are often found in a mosaic with other key woodland habitats, in particular acid Oak-Birch Woodlands on the Coal Measures and species-rich Upland Mixed Ashwoods on the Southern Magnesian Limestone.

The field layer in Wet Woodlands is often diverse and common plants include Golden-saxifrage, Lesser Celandine, Creeping Buttercup, Wood Avens and Herb Robert. The moist conditions favour bryophyte communities, however, historic air pollution caused by heavy industry may have reduced their presence and diversity in Rotherham’s Wet Woodlands.

In Rotherham, many of the most important Wet Woodlands occur within ancient woods and add considerably to the diversity of such sites. It is likely that in the past they would have been managed as part of the wood, frequently by coppicing or, due to their inaccessibility, may have only ever had very low levels of intervention.

Many of Rotherham’s Wet Woodlands are of recent secondary origin. These types of Wet Woodland are still of ecological significance as their development is a part of the natural succession process and their low, scrub-like habit provides ideal habitat for a range of Key Species. Alder, willows and birches are pioneer trees, rapidly responding to land-use and environmental change. These trees support particularly high invertebrate populations. However, where secondary Wet Woodland is spreading on to other priority habitats it may be more appropriate to remove the young trees.

Using the NVC, Wet Woodlands in Rotherham tend to be dominated by willow, namely the W1 Grey Willow - Marsh Bedstraw woodland, W2 Grey Willow - Downy Birch - Reed and W3 Bay Willow - Beaked Sedge woodland or Alder dominated W6 Alder - Stinging Nettle or W7 Alder, Ash - Yellow Pimpernel woodland.

**Extent**

- **National**: Unknown. 1980 estimate of 25,000 - 35,000ha of ancient Wet Woodland in the UK. Total area, including recent Wet Woodland sites estimated at 50,000 - 70,000ha.
- **Yorkshire and Humberside**: Unknown. Survey data for the region shows the presence of at least 340ha.
- **Rotherham**: Approximately 20ha recorded although this could be higher. Most sites are likely to be less than 1ha and fragmented.

**Priority**

- **National**: HIGH. Habitat of UK BAP Conservation Priority.
- **Yorkshire and Humberside**: HIGH. Priority habitat of Coal Measures Natural Area
- **Rotherham**: HIGH.
Current factors affecting habitat in Rotherham

- Clearance and conversion to other land-uses, in particular loss of woodland to agriculture, mineral extraction and development.
- Lack of recognition of the importance of ancient or biologically important woodland and lack of statutory protection.
- Lowering of water-tables, changes in drainage patterns and hydrology through water extraction and inappropriate developments.
- Flood prevention measures, river control and canalization, leading to the loss of natural alluvial processes and disturbance to riparian zones. Reducing the extent of existing sites and possibly reducing occurrence of future sites.
- Pollution and poor water quality caused by eutrophication, industrial effluents and rubbish dumping impacts on plant and animal communities, particularly invertebrates.
- Effects of climate change on hydrological systems.
- Impact of air pollution levels on water quality and bryophyte communities.
- Colonization of invasive non-native plants such as Himalayan Balsam, Japanese Knotweed and Sycamore.
- The fragmentation, isolation, small size and linear nature of sites increase their vulnerability.
- Constraints on the expansion and linking of Wet Woodlands from development, agriculture and industry.
- Cessation of traditional management such as coppicing and pollarding, resulting in successional development to other drier woodland types.

Current Action in Rotherham

- A Licence or permission under the Forestry Acts or Woodland Grant Scheme afford some protection. National Forest Policies seek to control felling and broad-leaved woodland conversion, also to maintain the interest of ancient semi-natural woodlands.
- Wet Woodlands within Anston Stones Wood, Maltby Low Common and Roche Abbey Woodlands SSSIs, Birch Wood, Scholes Coppice, Cadiffle Flash, Firby Reservoir and Hawks Wood LNRs are statutorily protected by their designation. However, these are only representatives of this habitat and there are many other examples not protected.
- The integrity of Wet Woodlands is dependent on the presence of a high watertable. Licensing regulations relating to land drainage and abstraction may protect them.
- Wet Woodlands may be afforded some protection through TPO regulations. ODPM guidelines state that woodlands may be included in Tree Preservation Orders in the interests of amenity. However, other factors such as importance as a wildlife habitat may be taken into account, which alone would not be sufficient to warrant a TPO.
- Planning Policy Guidance 1, 2, and 9 refer to sustaining and enhancing the environment with particular reference to ancient woodlands for the protection of wildlife.
- 65% of the Borough is designated as Green Belt, this is the single most important Council policy for protecting and conserving the environment. The Green Belt Policy is a control mechanism for development but does not afford protection for Wet Woodlands from inappropriate agriculture, forestry or recreation activities.
- Wet Woodland is identified as a Key Habitat in the UDP and is thus afforded protection through the relevant policies.
- The aims and objectives of the South Yorkshire Forest include protecting sites of nature conservation value and creating new opportunities for nature conservation, which are recognized in the UDP.

Management, Research and Guidance

- A number of national woodland inventories are available which provide information on the type and extent of woodland cover, in particular the Forestry Commissions National Inventory of Woodlands and Trees (started in 1995) and the former JNCC Ancient Woodland Inventory (1986).
- A number of studies and surveys specific to Rotherham provide valuable research information and guidance at a local level.
- All woodlands should be managed to meet the criteria laid out in the UK Forestry Standard.
- Grants for, and advice on, management are available from the Forestry Commission through the Woodland Grant Scheme.
- Information and guidance is available for sites in both Natural Areas (English Nature 1997).

Objectives

- Promote the special biological interests of Wet Woodland.
- Identify, protect and expand ancient or biologically important Wet Woodlands.
- Promote sustainable care and management of all Wet Woodlands.
- Maintain identified important Wet Woodlands in favourable condition, monitored within site-specific set-limits of acceptable change.

Proposed Actions

Policy and Legislation

- Raise the profile of Wet Woodlands as a key woodland habitat in Rotherham within relevant development plans, policies and proposals. Ensure more wide reaching protection of woodlands for biodiversity through the development of appropriate legislation.
  Action: RMBC, EN, SNHS, YNU, RNS, RUWG.
- Promote and enhance Wet Woodland cover in the Borough in line with Policy ENV3.4 Trees, Woodlands and Hedgerows in the UDP.
  Action: RMBC.
- Review SSSI coverage of Wet Woodland and designate any new sites meeting the required criteria. If it is not feasible to designate more SSSIs, other protection measures should be developed.
  Action: EN, RMBC, SNHS, YNU, RNS, RUWG.
- Declare Local Nature Reserves on appropriate areas of Wet Woodland.
  Action: RMBC, EN.
- Link compatible policies and legislation to maximize available protection for Rotherham’s Wet Woodland resource, ensuring that non-designated sites also receive protection.
  Action: RMBC, EN, FC.

Site Management, Safeguard and Land Acquisition

- Promote sustainable care and management of Wet Woodland in Rotherham in line with the UK Forestry Standard and following the guidelines laid out in Forestry Practice Guide 8.
  Action: RMBC, EN, FC, SYF.
- Encourage more owners to manage their Wet Woodlands sustainably by bringing them into the Woodland Grant Scheme, Countryside Stewardship or other appropriate schemes.
  Action: RMBC, FA, EN, SYF, FWAG, CoAg, MAFF, CPRE, landowners/managers.
- Encourage strategies that promote appropriate Wet Woodland expansion within Rotherham.
  Action: RMBC, SYF, FA, EN.
Where appropriate, impose planning conditions and make Tree Preservation Orders to protect valuable Wet Woodlands.
Action: RMBC.

Encourage farmers and landowners to manage existing riparian woodlands in an appropriate manner and develop new ones for multiple benefits as buffer zones, for erosion control, bank stabilization, landscape and amenity value.
Action: FWAG, CoAg, MAFF, FA, EN, SYF, RMBC, EA, landowners/managers.

Where appropriate, reinstate traditional management regimes such as coppicing within Wet Woodlands.
Action: FWAG, CoAg, MAFF, FA, SYF, RMBC, CPRE, landowners/managers.

Allow the natural development of recent secondary Wet Woodland where appropriate.
Action: RMBC, YF, EA, BW, FWAG, MAFF, CoAg.

Identify appropriate areas on which to extend and link existing Wet Woodlands and identify appropriate funding mechanisms to support this.
Action: RMBC, SYF, YF, EA, BW, EN, FA, FWAG, CPRE, MAFF, CoAg.

Promote the encouragement of new Wet Woodland sites (through natural regeneration or planting) in restoration schemes.
Action: RMBC, YF, FA, SYF.

Integrate the implementation of the Wet Woodland Action Plan with other biological interests to ensure that while delivering this Action Plan’s targets no other important habitats are impacted upon negatively.
Action: RMBC, FC, EN, SYF.

Control invasive plants such as Himalayan Balsam and Japanese Knotweed where they threaten existing Wet Woodland habitat.
Action: SNHS, YNU, RNS, RUWT, RMBC, landowners/managers.

Advisory

Develop and promote demonstration sites showing best practice for the management of Wet Woodlands within Rotherham.
Action: RMBC, FA, SYF, FWAG, CoAg.

Provide formal and informal local training on the ecology, management and conservation of Wet Woodland.
Action: RMBC, ILM, EN, FWAG.

Future Research and Monitoring

Ensure that ancient and biologically important Wet Woodlands are given adequate protection through policy development and supplementary planning guidance. Ensure that statutory designations which protect woods for biodiversity are more wide-reaching.
Action: RMBC, EN, ODPM.

Identify current extent of Wet Woodland within Rotherham and prepare an inventory of all the sites.
Action: RMBC, FC, EN, EA, BW, FWAG, MAFF, CoAg, BRC, SNHS, YNU, RNS, RUWT.

Develop and implement simple but effective site monitoring for all Wet Woodlands, to monitor factors such as extent, disturbance, threat and implementation of management to enable assessment of progress towards action plan targets.
Action: FC, EN, EA, FWAG, RMBC, SNHS, YNU, RNS, RUWT.

Develop biological monitoring schemes using indicator species to assess decline, development towards or maintenance of favourable conservation status of Wet Woodland habitats.
Action: EN, RMBC, SNHS, YNU, RNS, RUWT, FC.

Identify and develop future local markets for woodland products derived from the sustainable management of woodland habitats.
Action: FC, SYF, YF.

Monitor the success of the Wet Woodland Action Plan in relation to delivering the targets of the associated species and habitat action plans.
Action: EN, SBSG, SYBG, SNHS, YNU, RNS, RUWT, BRC, RMBC.

Communication and Publicity

Promote the importance of sustainable woodland management for biodiversity, community, wildlife conservation, recreation, historical and landscape interests.
Action: RMBC, SYF, FC.

Develop a strategy for delivering advisory material to woodland owners and managers linking in with existing initiatives, for instance the South Yorkshire Forest.
Action: RMBC, SYF, FC.

Provide educational and interpretation materials to local schools and communities using available resources such as the Forest Education Initiative, Get Set Grow and Fuelling a Revolution Heritage Lottery Fund Award.
Action: RMBC, SYF, FC.

Where appropriate develop community support, co-operation and active partnership involvement to deliver the Action Plan for Wet Woodlands.
Action: RMBC, SYF, SNHS, YNU, RNS, RUWT, local conservation groups.

To identify and monitor sustainability and biodiversity indicators for Wet Woodlands.
Action: EN, FC, RMBC, SNHS, YNU, RNS, RUWT.

Implementation

Sources of Possible Funding and Advice

FA, EN, MAFF, CoAg, EA, BW, ODPM, SYF, CPRE, RMBC, FWAG, YF, European funding (SRB, Objective 1 etc.), YF, Heritage Lottery Fund.

Benefits

Safeguard and enhance biodiversity.
Improve water quality and other hydrological benefits.
Provide important corridors and links for wildlife between other conservation habitats.
Improve landscape and amenity, provide increased educational and recreational resource.

Links with other Action Plans

Species: Pipistrelle Bat, Noctule Bat, Water Vole, Otter, Great Crested Newt, Badger. Other significant species groups include lepidoptera, deadwood beetles, fungi and bryophytes.
Habitats: Upland Oakwoods (oak-birch woods), Upland Mixed Ashwoods, Rivers and Streams.

Safeguard and enhance biodiversity.
The term ‘(Upland) Mixed Ashwood’ is used for woods on base-rich soils in which Ash is the most common tree, with Field Maple, oaks (more commonly English Oak), Hazel and elms being frequent though Dutch Elm disease has prevented this characteristic tree maintaining its place in this vegetation community. In places small groves of Yew are found. Other less frequent but characteristic trees growing in these woods include Wild Service-tree, the nationally scarce Large-leaved Lime and Small-leaved Lime which are mainly confined to ancient woodland sites. Very occasionally Midland Hawthorn grows in some southerly woods, Rotherham is near the northern extent of its natural distribution. The field layer of ancient Ashwoods is diverse, with Bluebell, Ramsons, Primrose, Wood Anemone and Dog’s Mercury reaching local dominance. Many of Rotherham’s ancient Ashwoods have suffered due to plantation forestry (for example Old Spring Wood), they have been planted with non-native trees such as Beech and Sycamore over the last hundred years. However, the field layer still exhibits the same ground flora where sufficient light is available and these woods should also be recognized as examples of (Upland) Mixed Ashwood priority habitat.

The term ‘upland’ used in the UK BAP to describe these Ashwoods reflects its abundance on base-rich soils in the north and west, rather than the altitude at which it occurs. In Rotherham good examples of Mixed Ashwoods are generally restricted to ancient woodlands in the Southern Magnesian Limestone Natural Area. However, small narrow tracts of woodland may be found on the more acidic soils of the Coal Measures, particularly in riparian areas or around flushes and often in the transitional zone between wet woodlands and the adjoining habitat.

Using the (NVC), plant communities of (Upland) Mixed Ashwoods tend to be sub-communities of either W8 Ash - Field Maple - Dog’s Mercury woodland or W9 Ash - Wild Service-tree - Dog’s Mercury woodland, with occasional small fragments of W13 Yew woodland where Yew groves occur. Ashwoods are particularly important for a range of notable plants, bats, butterflies and deadwood invertebrates.

**Extent**
- National: UK ancient (Upland) Mixed Ashwood resource estimated at 40,000-50,000ha, the total area of upland Ashwood is greater with a rough estimate of approximately 67,500ha.
- Yorkshire and Humberside: Unknown.
- Rotherham: Estimated at 105ha.

**Priority**
- National: HIGH. Habitat of UK BAP Conservation Priority.
- Yorkshire and Humberside: HIGH. Priority habitat of Coal Measures and Southern Magnesian Limestone Natural Areas.
- Rotherham: HIGH.

**Current factors affecting habitat in Rotherham**
- Impact of plantation forestry with non-native trees in particular Sycamore, Beech and conifers altering the canopy composition and reducing the diversity of the woodland.
- Loss of elms to Dutch Elm disease has also changed the structure and composition of many woods since the early 1970s. The gaps created are frequently filled by non-native trees such as Sycamore.
Following initial prolific regeneration the long-term survival of Ash is often poor, this may pose a problem for this tree’s survival and dominance in the woods.

Inappropriate development and agricultural practices have aided in isolating and fragmenting these woods. This is made worse by the removal of species-rich hedgerows that provide valuable links and wildlife corridors between these fragments.

Lack of recognition of the biological importance of Mixed Ashwoods resulting in a lack of statutory protection.

Local nutrient enrichment leading to changes in soils and ground flora resulting from spray drift or run-off from adjacent agricultural areas.

Damage caused by inappropriate recreational activities, for instance motorcycling, fires and vandalism.

Cessation of traditional management practices such as coppicing, leading to a reduction in structural diversity and associated wildlife benefits within the woods.

Possible impact of climate change on the vegetation communities.

**Current Action In Rotherham**

**Legal Status**

- Legal requirements for a Felling Licence or permission under the Forestry Acts or Woodland Grant Scheme afford some protection. National Forest Policies seek to control felling, broad-leaved woodland conversion and to maintain the interest of ancient semi-natural woodlands.

- Ancient Ashwoods on the Magnesian Limestone at Anston Stones Wood and Roche Abbey Woodlands are protected by SSIS designation. There are no other statutory site designations specifically protecting woodlands for their biological interest.

- Ashwoods may be afforded some protection through Tree Preservation Order (TPO) regulations. DEFRA guidelines state that woodlands may be included in TPOs in the interests of amenity. However, other factors such as importance as a wildlife habitat may be taken into account, though not sufficient to warrant a TPO on their own.

- Planning Policy Guidance Notes 1, 2, and 9 refer to sustaining and enhancing the environment with particular reference to ancient woodlands for the protection of wildlife.

- 65% of the Borough is designated as Green Belt, this is the single most important Council policy for protecting and conserving the environment. The Green Belt Policy is a control mechanism for development but does not afford protection to woodlands from inappropriate agriculture, forestry or recreation activities.

- (Upland) Mixed Ashwoodland is identified as a Key Habitat in the UDP and is thus afforded protection through the relevant policies.

- The aims and objectives of the South Yorkshire Forest include protecting sites of nature conservation value and creating new opportunities for nature conservation, and are recognized in the UDP.

**Management, Research and Guidance**

- A number of national woodland inventories are available which provide information on the type and extent of woodland cover, in particular the Forestry Commission’s National Inventory of Woodlands and Trees (started in 1995) and the former NCC Ancient Woodland Inventory (1986).

- A number of local studies and surveys specific to Rotherham provide valuable research information and guidance at a local level.

- All woodland should be managed to meet the criteria laid out in the UK Forestry Standard.

- Grants for, and advice on, management are available from the Forestry Commission through the Woodland Grant Scheme.

- Habitat specific advice for Mixed Ashwoods is available in the Forestry Authority guide for (Upland) Mixed Ashwoods (Guide No. 4, 1994).

- Area specific information and guidance is available in the Southern Magnesian Limestone Natural Area (English Nature 1997).

**Objectives**

- Promote the special biological interest of Mixed Ashwood.

- Identify, protect and, where appropriate, expand ancient or biologically important Mixed Ashwoods.

- Promote sustainable care and management of all Mixed Ashwoods.

- Identify and maintain or work towards favourable condition for all ancient Mixed Ashwoods.

**Proposed Actions, Policy and Legislation**

- Raise the profile of Mixed Ashwoods as a key woodland habitat in the south and east of the Borough within relevant development plans, policies and proposals. Ensure more wide reaching protection of woodlands for biodiversity through the development of appropriate legislation.

- Promote and enhance woodland cover in the Borough in line with Policy ENV3.4 Trees Woodlands and Hedgerows in the Unitary Development Plan (June 1999).

- Review SSSI coverage of Mixed Ashwoods and designate any new sites meeting the required criteria. If it isn’t feasible to designate more SSSIs other protection measures should be developed.

- Declare Local Nature Reserves on appropriate areas of Mixed Ashwoods including Hawks Wood, Old Meadow Wood and Old Spring Wood.

- Through appropriate planning control allow no further loss of ancient or biologically important Mixed Ashwood habitat. Use compatible policies and legislation to maximize available protection for Mixed Ashwoods, ensuring non-designated sites also receive protection.

- Encourage more owners to manage their Mixed Ashwoods sustainably by bringing them into the Woodland Grant Scheme, Countryside Stewardship or other appropriate schemes.

- Reinstate traditional management regime for instance coppicing within Mixed Ashwoods where appropriate.

- Encourage strategies that promote appropriate linking and extension of areas of Managed Ashwoods within Rotherham.

- Encourage farmers and landowners to maintain and manage existing species-rich hedgerows which provide valuable links to fragmented Ashwoods and plant new hedgerows and woodlands where appropriate.

- Promote the special biological interest of Mixed Ashwood.
Encourage appropriate silvicultural management to reinstate native trees on ancient Mixed Ashwood sites where plantation forestry has occurred.
Action: FC, RMBC, CoAg, landowners/managers.

Allow the natural development of recent Mixed Ashwoods where appropriate.
Action: RMBC, BW, FWAG, MAFF, landowners/managers, CoAg.

Identify appropriate areas on which to extend and link existing Mixed Ashwoods and identify appropriate funding mechanisms to support this.
Action: RMBC, SYF, EN, FA, FWAG, CPRE, MAFF, CoAg.

Integrate the implementation of the (Upland) Mixed Ashwood's Action Plan with other biological interests to ensure that while delivering this Action Plan's targets no other important habitats are impacted upon negatively.
Action: RMBC, FC, EN, SYF.

Advisory

Develop and promote demonstration sites showing best practice for the management of Mixed Ashwoods within Rotherham.
Action: RMBC, FA, SYF, FWAG, CoAg.

Provide formal and informal local training on the ecology, management and conservation of Mixed Ashwoods.
Action: RMBC, ILM, EN, FWAG.

Future Research and Monitoring

Ensure that ancient and biologically important Mixed Ashwoods are given adequate protection through policy development and supplementary planning guidance. Ensure that statutory designations which protect woods for biodiversity are more wide-reaching.
Action: RMBC, EN, ODPM.

Identify current extent of Mixed Ashwoods in Rotherham. Collate information on Mixed Ashwoods from relevant organisations.
Action: RMBC, FC, EN, FWAG, MAFF, CoAg, BRC, SNHS, RNS, YNU, RUWG, SK58.

Develop and implement simple but effective site monitoring for all ancient Mixed Ashwoods, to monitor factors such as extent, disturbance, threat and implementation of management to enable assessment of progress towards action plan targets.
Action: FC, EN, EA, FWAG, RMBC, SNHS, RNS, YNU, RUWG.

Develop biological monitoring schemes using indicator species to assess decline, development towards or maintenance of favourable conservation status of Mixed Ashwood habitats.
Action: EN, RMBC, SNHS, RNS, YNU, RUWG, FC, SK58.

Identify and develop future local markets for woodland products derived from the sustainable management of woodland habitats.
Action: FC, SYF, YF.

Monitor the success of the (Upland) Mixed Ashwood's HAP in relation to delivering the targets of the associated species and habitat action plans.
Action: EN, SBSG, SYBG, SNHS, RNS, YNU, RUWG, RMBC, SK58.

Communication and Publicity

Promote the importance of sustainable woodland management for biodiversity, community, wildlife conservation, recreation, historical and landscape interests.
Action: RMBC, SYF, FC.

Develop a strategy for delivering advisory material to woodland owners and managers linking in with existing initiatives including South Yorkshire Forest.
Action: RMBC, SYF, FC.

Provide educational and interpretation materials to local schools and communities using available resources such as the Forest Education Initiative, Get Set Grow and Fuelling a Revolution Heritage Lottery Fund Award.
Action: RMBC, SYF, FC.

Develop and encourage community support, partnerships and co-operation to deliver the (Upland) Mixed Ashwood's HAP.
Action: RMBC, SYF, FC.

Identify and monitor sustainability and biodiversity indicators for (Upland) Mixed Ashwoods.
Action: EN, FC, RMBC, SNHS, RNS, YNU, RUWG, SK58.

Implementation

Sources of Possible Funding and Advice

FA, EN, MAFF, CoAg, EA, BW, ODPM, RMBC, SYF, CPRE, FWAG, YF, European funding (SRB, Objective 1 etc.), Heritage Lottery Fund.

Benefits

Safeguard and enhance biodiversity.

Protect maintain and enhance valuable biodiversity, historic, cultural and landscape features.

Links with other Action Plans:

Species: Badger, Bluebell, Large-leaved Lime, White Letter Hairstreak, Pipistrelle Bat and Nodulate Bat.

Habitats: Wet Woodland, Oak-Birch Woodland, Ancient/Species-Rich Hedgerows, Calcareous Grassland.
Hedgerows are an integral part of our landscape, comprising rows of closely-growing trees, shrubs and associated ground flora. They are linear features which resemble woodland edge and scrub habitats and many have their origins in the woodland clearance of the 17th and 18th Centuries. Ancient hedgerows support the greatest biodiversity and are defined as being those established before the Enclosure Acts were passed between 1720 and 1840. These hedgerows and the field banks or ditches that they often grow alongside frequently mark Parish boundaries and ancient field systems and have considerable historic interest. Species-rich hedgerows are defined in the UK BAP as those with five or more native woody plants in a 30m length and/or a rich ground flora. However, hedges with fewer plants are also important and frequently support rare and threatened ones.

All hedgerows in urban and rural areas are considered to be important assets. They are often species-rich, reflect historic field boundaries, and frequently form important green corridors. Hedgerows adjacent to green lanes, tracks and woods tend to be particularly rich.

Most hedgerows in Rotherham occur within the Coal Measures Natural Area where Hawthorn, Elder and Blackthorn are the most common trees and shrubs. Other shrubs associated with them include Hazel and Dog Rose. On the more basic soils of the Southern Magnesian Limestone Natural Area hedgerows usually have more varied trees with Ash, Field Maple, elms and Dogwood being frequent as well as those previously mentioned. Midland Hawthorn is native in the Midlands and southeast Britain and is often found on clay soils with oaks. Hedgerow trees left to grow as standards (especially oaks and Ash) are important hedgerow features, occasionally veteran with associated interest. In Rotherham, hedgerows are usually included within NV C W21 Hawthorn - Ivy, W22 Blackthorn - Bramble and W24 Bramble - Yorkshire-fog scrub communities.

Although hedgerows are one of the most significant habitats in lowland Britain, they have suffered significant neglect and loss since 1945 but current agri-environmental policy is starting to reverse this trend. Hedgerows are a primary habitat for at least 47 types of plant and animal of conservation concern in the UK, including 13 globally-threatened or rapidly-declining ones; this is more than for most other Key Habitats. In Rotherham they are especially important for butterflies and moths, farmland birds, bats and some once-common flowering plants.

**Extant**
- National: Unknown. Surveys in the 1990s estimate 450,000km of hedgerow existed, of which 42% was thought to be Species-rich.
- Yorkshire and Humberside: Unknown. 10% of the national hedgerow resource is estimated to be within the region. The proportion that is ancient or Species-rich is unknown.
- Rotherham: Estimated at 64km.

**Priority**
- National: HIGH. UK BAP habitat of conservation priority. Britain’s hedged landscapes are thought to represent some of the best in Europe.
- Yorkshire and Humberside: Unknown.
- Rotherham: HIGH. Rotherham’s hedgerows are significant both locally and regionally.
Current factors affecting habitat in Rotherham

- Neglect and/or inappropriate management, such as too frequent and/or badly timed flailing and lack of laying, leading to ‘gappy’ hedges or rows of hedgerow trees.
- Removal for agricultural purposes such as increasing field size, for housing development and for road widening schemes.
- Changes in agricultural practices, such as reduced field margins and increased agro-chemical use often causing spray drift which adversely affects hedge bottoms. The increased use of fences reduces the agricultural necessity of hedgerow management.
- Loss of hedgerow trees through old age and felling, without planting replacements.
- Lack of recognition of the importance of hedgerows.

Current Action in Rotherham

- The Hedgerow Regulations (1997) protect ‘important’ hedgerows from indiscriminate removal.
- The Habitat Directive and associated Statutory Guidance recognizes the importance of hedgerows and that Local Authorities should develop policies to encourage the management of such linear features.
- The Food and Environmental Protection Act (1985) prohibits pesticide spraying into hedge bottoms.

Management, research and guidance

- Numerous local initiatives, including RMBC’s ‘Landscape Enhancement Grant’, gapping-up and planting new Species-rich hedgerows with the help of local community groups.
- Countryside Stewardship Agreements enable hedgerows to be brought under appropriate management.
- Guidance is available from MAFF, FWAG, RMBC, YWT, RSPB.
- On-going initiatives with neighbouring LAs identifying regional hedgerow resource.
- Guidance on the economic and agricultural importance of managing hedgerows to protect against soil erosion and provide physical protection for livestock from adverse weather conditions.

Objectives

- Identify Ancient and/or Species-rich Hedgerows.
- Establish a register of important biological and historic hedgerows.
- Identify important hedgerow trees.
- Ensure the effective protection of important hedgerows and associated features.
- Encourage the appropriate management of hedgerows and hedgerow trees, targeting ‘gappy’ and neglected hedgerows.
- Monitor changes to the local hedgerow resource.
- Raise public awareness of the importance of hedgerows and encourage local involvement in their protection.

Proposed Actions

- Ensure the compliance of current planning guidance and legislation including the adequate provision of hedgerows as important landscape and wildlife features.
  Action: RMBC, CPRE, YWT, SNHS, YNU, RNS, RUWT.
- Encourage policies promoting the maintenance and management of hedgerows as important landscape and wildlife features in development proposals.
  Action: RMBC, CPRE, YF, YWT, SNHS, YNU, RNS, RUWT.
- Ensure that hedgerows are afforded effective protection from development by appropriate planning conditions.
  Action: RMBC, CPRE, YF, YWT, SNHS, YNU, RNS, RUWT.
- Protect important hedgerow trees with TPOs where applicable.
  Action: RMBC.
- Monitor the local hedgerow resource.
  Action: RMBC, CPRE, YWT, SNHS, YNU, RNS, RUWT.

Site Management, Safeguard and Land Acquisition

- Establish a register of Ancient and/or Species-rich Hedgerows and hedgerow trees.
  Action: RMBC, CPRE, YWT.
- Promote the re-establishment of hedgerows on historic boundaries, such as Parish boundaries, and along strategic green corridors.
  Action: RMBC, CPRE, FWAG, local community groups.
- Promote the Countryside Stewardship Scheme to encourage the appropriate management of hedgerows, including gapping-up, laying and trimming.
  Action: RMBC, FWAG, MAFF, SNHS, YNU, RNS, RUWT, CPRE.
- Promote the planting of hedgerow trees where appropriate.
  Action: RMBC, FWAG, MAFF, SNHS, YNU, RNS, RUWT, CPRE.
- Encourage the use of local provenance shrubs for infilling or new hedges.
  Action: RMBC, FWAG, MAFF.
- Make sure that roadside hedgerows are protected from inappropriate development and management, such as too frequent flailing.
  Action: HA, RMBC, FWAG, MAFF, SNHS, YNU, RNS, RUWT, CPRE.

Advisory

- Promote available grant aid to landowners/managers for the management, restoration and establishment of Species-rich hedgerows.
  Action: FWAG, MAFF, EN, RMBC, CPRE.
- Protect hedge bottoms from inappropriate management and activities by the promotion of conservation headlands, set-aside strips etc.
  Action: MAFF, FWAG, RMBC, CPRE.
- Promote the agricultural importance hedgerows can afford livestock and crops.
  Action: RMBC, FWAG, MAFF, SNHS, TWT, YNU, RNS, RUWT, CPRE.
- Promote hedgerows as good habitat for predators, including insects and birds, which help to develop natural pest control measures especially important on organic farms.
  Action: MAFF, FWAG, RMBC, SNHS, TWT, YNU, RNS, RUWT, CPRE.

Future Research and Monitoring

- Promote Hedgerow Detective Survey packs to local groups.
  Action: RMBC, SNHS, YNU, RNS, RUWT, CPRE, YWT.
- Monitor the status of hedgerows in Rotherham.
  Action: RMBC, FWAG, MAFF, SNHS, YNU, RNS, RUWT, CPRE.
- Establish a register of hedgerow trees.
  Action: FWAG, MAFF, SNHS, YNU, RNS, RUWT, CPRE.

Communication and Publicity

- Promote the importance of Rotherham’s hedgerows.
  Action: RMBC, FWAG, MAFF, SNHS, YNU, RNS, RUWT, CPRE, YWT.
- Establish links with neighbouring LAs to co-ordinate and implement hedgerow conservation regionally.
  Action: RMBC, FWAG, MAFF, SNHS, YNU, RNS, RUWT, CPRE, YWT.
- Encourage local people and community groups to monitor Rotherham’s hedgerows and ensure their protection.
  Action: RMBC, SNHS, YNU, RNS, RUWT, CPRE, YWT.
Hedgerows and field boundaries offer protection to, and are exploited by an abundance of wildlife enabling it to move about in relative safety while searching for food, shelter and a mate. They are ‘Nature’s highways’ connecting thickets and woods where a great variety of creatures live and breed.

Hedgerows have significant importance in the landscape reflecting historic and political land-use. They also have an intrinsic value as a habitat with over 600 plants, 1500 insects, 65 birds and 20 mammals having been recorded at some time living or feeding in hedgerows.

Species: numerous including bats, Badger, Brown Hare, Great Crested Newt, insects; birds such as Grey Partridge, Song Thrush, Tree Sparrow, Corn Bunting and Barn Owl.

The Great Crested Newt is the largest of the three British varieties growing up to 17cm long. It is also called the Warty Newt due to its dark, often black warty skin speckled with tiny white spots. Its underside is usually vivid orange or yellow with black blotches which acts as a warning of its toxicity to would-be predators. The male has a high, jagged crest along its back which dips at the rear of its abdomen, and then increases in height on its tail and a smaller crest on the underside of its tail. This impressive crest diminishes after the breeding season which takes place between April and June.

Great Crested Newts are the most terrestrial of the British newts and require rough grassland and scrub for dispersal. Normally, breeding takes place in still or standing, relatively large water bodies that are at least 70cm deep. Large ponds, mining subsidence flashes, relict washlands, wet ditches, lowland marshes and disused canals are all potentially suitable for supporting Great Crested Newts, especially those liable to periodic drying out, which prevents fish which prey on the tadpoles, from surviving.

Great Crested Newts are usually found in lowland Britain and there are two distinct and separate populations in this region. One is associated with the White Peak and marginal areas of the Dark Peak to the west of Sheffield whilst the other is distributed in more lowland areas to the east.

**Great Crested Newt (Triturus cristatus)**

**Description**

- National: Relatively widespread and may be numerous in parts of lowland England and Wales. It is found in Scotland but is absent from Ireland.
- Yorkshire and Humberside: Relatively widespread.
- Rotherham: Relatively common and widespread occurring on both the Coal Measures and Southern Magnesian Limestone Natural Areas. The south-west of the Borough, including the River Rother and its tributaries, is a stronghold for the Great Crested Newt.

**Priority**

- National: HIGH. Species of UK BAP Conservation Priority. Recorded population declines of 25-49% in the last 25 years and a documented 2% national decline of colonies every five years.
- Yorkshire and Humberside: HIGH.
- Rotherham: HIGH.

**Current factors affecting species in Rotherham**

- Loss and destruction of ponds, mainly due to neglect, infilling or deterioration of farm ponds, development pressure, water abstraction, stocking of fish, degradation and fragmentation of terrestrial habitats.
- Increased water pollution, especially by agrochemicals, reduces suitable aquatic vegetation and water quality.
- Loss and destruction of hibernacula.
- Isolation of colonies.

**Current Action in Rotherham**

**Legal Status**

- Listed on Schedule 5 of the Wildlife and Countryside Act, Schedule 2 of the Habitats Directive and Appendix II of the Bern Convention prohibiting the killing, injuring, taking, possession or sale of this species and the destruction or disturbance of its habitat.
Management, Research and Guidance

- JNCC 1994-1999 framework for the conservation of amphibians and reptiles in the UK and a 1997 regional reptile and amphibian study by SNHS.
- Local surveys periodically carried out by local naturalists, Local Authorities and YWT.

Objectives

- Determine local distribution and key breeding colonies.
- Maintain current populations.
- Safeguard current breeding sites and promote population expansion to new sites.
- Increase public awareness and raise the status of Great Crested Newts among the general public, voluntary groups, planners and landowners.
- Promote the creation of new ‘fish-free’ wildlife ponds to offset any pond losses.

Proposed Actions

Policy and Legislation

- Ensure that all Great Crested Newt colonies and associated habitats are identified and afforded appropriate protection in the UDP.
  Action: RMBC, YWT, SNHS, YNU, RNS, RUWG, EN, developers.
- Promote the protection of ponds and, where appropriate, construct new ones in future developments that are suitable for Great Crested Newts.
  Action: RMBC, YWT, SNHS, YNU, RNS, RUWG, EN, developers.
- Promote site designation in strategic local plans.
  Action: RMBC, EN, JNCC.

Species Management, Protection and Acquisition

- Make sure that the ecological requirements of Great Crested Newts are fully recognized in all Environmental Impact Assessments that may threaten existing sites, and appropriate management is implemented to mitigate against any detrimental impact on this animal.
  Action: EN, RMBC, developers, YWT.
- Develop and maintain close links with landowners/managers and seek favourable management on all key sites.
  Action: RMBC, FWAG, EN, YWT, SNHS, YNU, RNS, RUWG.
- Maintain the number and distribution of occupied sites through habitat management and restoration.
  Action: RMBC, FWAG, EN, YWT, SNHS, YNU, RNS, RUWG.
- Encourage the natural dispersal of Great Crested Newts to new sites, through habitat management and re-creation, to compensate against habitat loss.
  Action: RMBC, FWAG, EN, YWT, SNHS, YNU, RNS, RUWG.
- Consider translocation or reintroduction to restore populations to historic and/or potential sites.
  Action: EN, Froglife.

Advisory

- Maintain regular contact with landowners/managers and provide advice and information on Great Crested Newt conservation.
  Action: EN, RMBC, YWT, SNHS, YNU, RNS, RUWG.
- Develop key sites to promote good Great Crested Newt conservation and protection.
  Action: EN, RMBC, Froglife.
- Promote the training of surveyors of Great Crested Newt populations.
  Action: Froglife, EN.

- Ensure maintenance of Great Crested Newt records.
  Action: RMBC, EN, YWT, SNHS, YNU, RNS, developers, Local Groups.
- Distribute management advice and information on grant schemes to landowners/managers.
  Action: EN, RMBC, Froglife.

Future Research and Monitoring

- Undertake surveys to identify new breeding sites and monitor population levels at all known sites.
  Action: YWT, SNHS, YNU, RNS, RUWG, RMBC, Froglife, EN.
- Identify potential sites for restoration or creation of new habitats.
  Action: EN, RMBC, FWAG, MAFF.

Communication and Publicity

- Establish effective communication links between the relevant conservation organizations.
  Action: LNGs, RMBC, Froglife, EN.
- Publicize appropriate conservation work through the media and promote sympathetic amphibian conservation.
  Action: EN, Froglife, RMBC, YWT, SNHS, YNU, RNS, RUWG.
- Encourage liaison with landowners/managers.
  Action: RMBC, FWAG, MAFF, EN.

Implementation

Sources of Possible Funding and Advice

- EN, Froglife, SNHS, RMBC, YWT, YNU, RNS, RUWG.

Benefits

- Maintenance of distribution and viability of existing British populations as key European resource.
- The protection and management of wildlife ponds.

Links with other Action Plans

- Species: none
The Badger is one of Britain’s most impressive mammals with striking face patterns of bold black and white stripes, black belly, grey back and short tail. It is a thickset animal and is unmistakable if seen clearly. Their setts are very recognizable with numerous entrances, where accumulated earth mounds and bedding material can often be found outside. Setts are normally found in woodlands but the family groups forage over large territories covering numerous habitats, including gardens and pasture, where they feed on a variety of food such as earthworms and fruit.

### Extent
- **National**: Found throughout the UK, except upland, mountainous regions.
- **Yorkshire and Humberside**: Widespread.
- **Rotherham**: Widespread.

### Priority
- **National**: MEDIUM. UK BAP Species of Conservation Concern.
- **Yorkshire and Humberside**: Unknown.
- **Rotherham**: HIGH.

### Current factors affecting species in Rotherham
- Illegal persecution (including digging, poisoning, trapping, sett blocking).
- Road casualties.
- Land development.
- Disturbance (including over-watching, increase in visitor pressure, forestry operations).
- Loss of suitable feeding habitat.

### Current Action In Rotherham

#### Legal Status
- Badgers are identified as a Key Species within the UDP and afforded protection through the appropriate policies.

#### Management, Research and Guidance
- South Yorkshire Badger Group (SYBG) actively protects known setts and provides artificial setts where appropriate.
- Sett monitoring is carried out by SYBG.
- EN Badgers and Development leaflet.

#### Objectives
- Consolidate the existing population levels.
- Restore the local Badger population and range to 1970 levels.
- Create an increased awareness of Badgers and related issues within the general public, wildlife groups and landowners/managers.

#### Proposed Actions

#### Policy and Legislation
- Locate, record and carry out protective measures as necessary to all active setts currently not protected.
  - Action: SYBG, RMBC.
- Identify all inactive setts currently not protected.
  - Action: SYBG, RMBC.
Identify suitable locations and habitats for the construction of artificial setts to enable a reintroduction programme to be implemented. Action: SYBG.

Investigate methods of reducing the number of road casualties. Action: SYBG, EN, RMBC.

Institute a method of ensuring that setts, in particular sensitive setts, are not disturbed by over-watching. Action: SYBG, RMBC.

Develop an appropriate method of notification of planning applications that relate to sett locations and Badger habitat. Action: SYBG, RMBC.

Continue monitoring setts to identify incidents of illegal persecution and where necessary, provide evidence to enable successful prosecutions to take place. Action: SYBG, RMBC.

Species Management, Protection and Acquisition

- Protect setts as soon as they become active. Action: SYBG, RMBC.
- Make sure that the presence of Badgers is fully recognized by the Planning Authority and developers to ensure that the ecological requirements of Badgers are fully integrated into the planning process and that legal protection is enforced. Action: SYBG, RMBC.
- Encourage the patrolling of sites where Badgers are present, by countryside service staff, voluntary organizations and members of the public. Action: SYBG, RMBC, RUWG, YWT, SNHS, YNU.
- Develop and maintain close links with landowners/managers who have Badgers on their land. Action: SYBG, RMBC, RUWG.
- Enforce legislation in all instances of infringement. Action: EN, SYBG.
- Regularly monitor setts for signs of disturbance. Action: SYBG, RMBC.
- Maintain up-to-date records of sett locations and population densities. Action: SYBG, RMBC, RUWG.

Advisory

- Maintain regular contact with landowners/managers and develop a procedure where advice and information can be sought, particularly where instances of disturbance or persecution have taken place. Action: SYBG, EN, RMBC, FWAG.
- Produce an advisory sheet explaining the need for the protection of Badgers and the methods that can be used. Action: SYBG, EN, RMBC.

Future Research and Monitoring

- Undertake regular surveys to assess population levels at sites and monitor local distribution. Action: SYBG, RMBC, RUWG, YWT, SNHS, YNU.
- Monitor and review new sites including artificial setts. Action: SYBG, RMBC.
- Create a database to enable population assessments to be carried out. Action: SYBG, RMBC.

Communication and Publicity

- Ensure continued support for the SYBG Badger leaflet. Action: EN, SYBG, RMBC.
- Carry out a programme of environmental education activities for schools, in particular schools close to Badger sett locations. Action: SYBG, RMBC.
- Publicize Badger conservation work through displays and attendance at shows and exhibitions. Action: SYBG.
- Give slide talks to interested groups and to members of the public. Action: SYBG, RMBC, RUWG, YWT, SNHS, YNU.
- Investigate the potential for creating a 'public viewing sett' where organized visits can take place, under the guidance of an expert, who can in form and educate the public about Badger related issues. Action: SYBG, RMBC.

### Implementation

<table>
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### Benefits

- Seeing Britain's largest land carnivore at close range gives people great pleasure and excitement.
- The Badger is an important part of our national heritage, being described as 'The most ancient Briton of English beasts' in Edward Thomas' poem 'The Combe'.

### Links with other Action Plans

- Species: woodland species.
**Bellflower Stem-miner (Platyparae discoidea)**

**Description**

The adult insect is about the size of a house fly with a bright orange head and large, black-marked wings. It occurs in damp limestone grassland and woodland, usually in hilly areas, including gorges. The larva feeds inside the stem of Giant Bellflower and the adult has a short flight period from late April to early June.

**Extent**

- National: JNCC reports that c.10 sites have been recorded from the Midlands, northern England and southern Scotland.
- Yorkshire and Humberside: Upland areas in Derbyshire and Yorkshire, though there are populations throughout central Yorkshire also in South Yorkshire. Bellflower Stem-miner has been recorded in Hawks Wood and Pot Riding Wood at Sprotbrough Gorge in the Southern Magnesian Limestone Natural Area.
- Rotherham: Only known site is at Hawks Wood.

**Priority**

- National: HIGH. Listed as a Red Data Book 2 species (vulnerable to extinction in the UK) and also very rare abroad.
- Yorkshire and Humberside: HIGH. The region contains national strongholds.
- Rotherham: HIGH.

**Current factors affecting habitat in Rotherham**

- Loss of habitat or food plant through afforestation, invasion by scrub and herbage and overgrazing are identified as the reasons for the continued decline.
- Maintenance of healthy populations of Giant Bellflower, avoidance of overgrazing and use of rotational policies to prevent scrub invasion are identified as the appropriate remedial measures.

**Current Action in Rotherham**

**Legal Status**

- None.

**Management, research and guidance**

- Current distribution within Hawks Wood known. Doesn’t seem to be present in Old Meadow Wood, Old Spring Wood or in Nor Wood. Surveying should be relatively straightforward as the adult fly is very conspicuous and prominent, resting on the larval food plant, and has a very short flight period.

**Objectives**

- Assess the population levels and distribution within Rotherham
- Monitor the effectiveness of this SAP.
- Increase public awareness of the insect and any related issues, aimed at the general public, wildlife groups, planners and landowners/managers.

**Proposed Actions**

**Policy and Legislation**

- Identify appropriate RMBC policies and/or studies to support implementation of the SAP.
  Action: RMBC.
Site Management, Safeguard and Land Acquisition
- On-going liaison with landowners/managers to identify appropriate actions.
  Action: RMBC.
- Maintain up-to-date records of population, locations and densities.
  Action: RMBC.

Advisory
- Advise landowners/managers on appropriate management and funding opportunities.
  Action: RMBC.

Future Research and Monitoring
- Undertake surveys to assess and monitor population levels and extent of foodplant at the known and adjacent sites.
  Action: RMBC, YNU, Local Groups.
- Extend surveying effort to include other sites with the foodplant.
  Action: RMBC, YNU, Local Groups.

Communication and Publicity
- Raise awareness of the rarity and vulnerability of the Bellflower Stem-miner.
  Action: YNU, RMBC, Local Groups.

Implementation

Sources of possible Funding and Advice
- YNU, RMBC, Local Groups.

Benefits
- Maintenance and contribution towards conservation of global biodiversity.

Links with other Action Plans
- Species: none
- Habitats: Mixed Ash Woodlands.
**Pillwort (Pluralia globulafera)**

**Description**

Pillwort is an aquatic fern which grows in three distinct habitat types: open water in lakes, ditches or clay pits where the soft mud allows colonization; mud at the edge of such water bodies, and; wet sandy hollows of dunes and heaths, which are well trampled. It has rhizomes of up to 50cm long and slender creeping axillary branches. The cylindrical leaves are 3 to 10cm long, it is distinguished by the uncurling crozier-tips of its thread-like fronds, the spores are produced in spherical hairy capsules or 'pills' at the leaf bases.

When found in shallow water it could be confused with other plants such as Bulbous Rush. The presence of Typha at both the Rotherham site and Skipwith Common suggests that the pH is higher than 5.5.

**Extent**

- **International**: The plant is considered endemic to western Europe. Populations are found in Britain (excluding Northern Ireland), France, northern Germany and southern Sweden. In 1995 there were three reported locations for the plant in Holland.
- **National**: In the last 100 years there have been records at up to 230 locations, but since 1970 it has only been recorded at 90 of these. In Yorkshire it has been recorded in 4 Vice Counties at 16 sites, excluding the Rotherham site. Since 1990, the plant has been seen at only four of these locations but it was not located at Skipwith Common in 1998.
- **Rotherham**: One site.

**Priority**

- **International**: MEDIUM. It is an internationally threatened plant which is considered to be declining throughout its range.
- **National**: HIGH. Plant of Conservation Priority. In decline.
- **Rotherham**: HIGH.

**Current factors affecting species In Rotherham**

- The presence of Australian Swamp Stonecrop was noted in 2000 at the existing site. Subsequent surveying has identified significant submerged and surface stands throughout the site. This is a significant threat and reduces the viability of the site in the medium to long term.
- Adjacent land is identified for future industrial and business use and the site may be threatened by insensitive development.
- Modification of the water levels and bank profiles by the fishing club could potentially reduce the suitability of the site for Pillwort.

**Current Action In Rotherham**

**Legal Status**

- It receives general protection under the Wildlife and Countryside Act 1981 in the rest of the UK, where it is now classified as Vulnerable.

**Management, Research and Guidance**

- As present the site is used as a private fishing pond by a local angling club.
- In 1994 work at the site successfully extended the suitable habitat. Subsequent surveying in 1999 confirmed an increased population.
Objectives
✦ Maintain the population at the existing site.
✦ Maintain a viable Pillwort population in South Yorkshire by translocating plants to suitable receptor sites.

Proposed Actions
Policy and Legislation
✦ Encourage continued beneficial site management at the existing site.
  Action: Dinnington Angling Club, EN, RMBC.

Species Management, Protection and Acquisition
✦ Identify suitable sites for future translocation.
  Action: Plantlife, EN, YNU, local authorities, YWT, SNHS.
✦ Ensure that the relevant authorities are aware of the existing site’s sensitivity to water pollution instances.
  Action: RMBC, EA, EN.
✦ Encourage the creation of suitable habitats where opportunities arise in the vicinity of existing sites.
  Action: EN, RMBC, YNU, SNHS, YWT, Plantlife.

Advisory
✦ Seek to maintain appropriate water level regimes at the existing site.
  Action: EN, YNU, RMBC, Dinnington Angling Club.

Future Research and Monitoring
✦ Monitor water pH.
  Action: RMBC, EN, Plantlife, YNU, SNHS.

Communication and Publicity
✦ Ensure that liaison is maintained with adjacent landowners in order that any new land drainage proposals do not pollute the dyke and the water source for the pond.
  Action: EN, RMBC, YNU, SNHS, YWT.

Implementation
Sources of Possible Funding and Advice
✦ Plantlife, EN, RMBC.

Benefits
✦ Maintenance of Rotherham’s and the region’s biodiversity.
Terns are fish-eating seabirds closely related to gulls but differing from them in their smaller, daintier appearance and lighter, more graceful flight. Together with their long, pointed wings and forked tails, this has earned them the name 'sea swallows'.

The Common Tern is the most widespread but not the most numerous of the five kinds of tern that nest regularly in Britain and Ireland. It is superficially similar to the Arctic Tern, sharing its neat black cap, but has a longer, usually black-tipped bill. It nests colonially, mostly at or near the coast but will also move inland, spreading along river valleys wherever it can find suitable nesting places. Inland, it prefers shingle banks along rivers, freshwater marshes, and islands in flooded sand and gravel pits. It will readily take to artificial nesting sites including rafts, wrecks, piers and even the roofs of buildings!

It is a migrant, returning to Britain from its wintering grounds off the coast of Africa each April, and leaving south again after the breeding season in September, to spend our winter in a warmer climate.

**Extent**
- Yorkshire and Humberside: Widespread and frequent on passage; uncommon breeder, most, if not all inland.
- Rotherham: Frequent on passage in Don and Rother Valleys; recent, rare but regular breeder.

**Priority**
- National: UK BAP Species of Conservation Concern, but no UK Action Plan proposed.
- Yorkshire and Humberside: Unknown.
- Rotherham: HIGH.

**Current factors affecting the species in Rotherham**
- Nest failure, due principally to mammalian, avian (and human) predation.
- Disturbance of breeding areas (fairly tolerant of human disturbance but this can significantly increase the likelihood of predation).
- Habitat modification/destruction.
- Conflicts with angling interests.
- Pollution.
- Reduction of staffing/resources by RMBC.
- Isolation of colonies.
- Persecution and illegal trapping in wintering areas.

**Current Action in Rotherham**

**Legal Status**
- Identified as a Key Species within the UDP and is afforded protection through the appropriate policies.
Management, Research and Guidance

- All nesting sites currently owned/managed by RMBC who provide artificial platforms for this purpose.
- Nest monitoring carried out by RMBC staff and informally by local birdwatchers/naturists.

Objectives

- Consolidation and expansion of present population and distribution.
- Create an increased awareness of Common Terns amongst the general public and landowners/managers.
- Safeguard current breeding sites and promote population expansion to new sites where possible.

Proposed Actions

Policy and Legislation

- Continue to monitor breeding success and reasons for any failures.
- Identify suitable locations for provision of further nesting rafts.
- Enlist help of other landowners, where relevant, in provision of sites for nesting terns.
- Continue maintenance of existing and provision of new nesting rafts.
- Promote protection of existing wetland habitats in future developments.

Species Management, Protection and Acquisition

- Continue to provide and manage for Common Terns at RMBC owned sites.
  Action: RMBC.
- Ensure that ecological requirements of Common Terns are accounted for in future developments that may threaten existing sites.
  Action: RMBC, developers.

Advisory

- Liaise with landowners/managers at sites where terns currently summer but don’t breed, with a view to encouraging participation with the SAP. (These sites may also be active fisheries where prejudice against fish-eating species is still strong).
  Action: RMBC, RNS, SBSG, SNHS, SK58 and individual naturalists.
- Promote Common Tern conservation and protection through work at key sites (Country Parks, LNRs).
  Action: RMBC.

Future Research and Monitoring

- Undertake regular monitoring to identify new breeding sites and monitor population levels at existing sites.
  Action: RMBC, RNS, SBSG, SNHS, SK58 and individual naturalists.
- Ensure that all records of Common Terns in Rotherham - especially those of breeding pairs - are entered onto RECORDER database promptly.
  Action: RMBC, RNS, SBSG, SNHS, SK58 and individual naturalists.

Communication and Publicity

- Preparation of a leaflet or series of leaflets, providing general details of BAP and specific HAPs and SAPs.
  Action: RMBC.
- Publicize appropriate conservation work through displays, press releases etc.
  Action: RMBC, YWT.
- Raise awareness of presence of Common Terns at high profile sites such as Country Parks etc.
  Action: RMBC.

Implementation, Sources of Possible Funding and Advice

- RMBC, YWT, YNU, RNS, SBSG, SNHS, SK58 and individual naturalists.

Benefits

- Use of high profile, attractive and highly visible species to highlight success of SAPs.
- Facilitating range expansion of a nationally uncommon breeding species.
- Protection and management of wetland sites.

Links with other Action Plans

- Species: None
- Habitats: Ponds and Lakes.