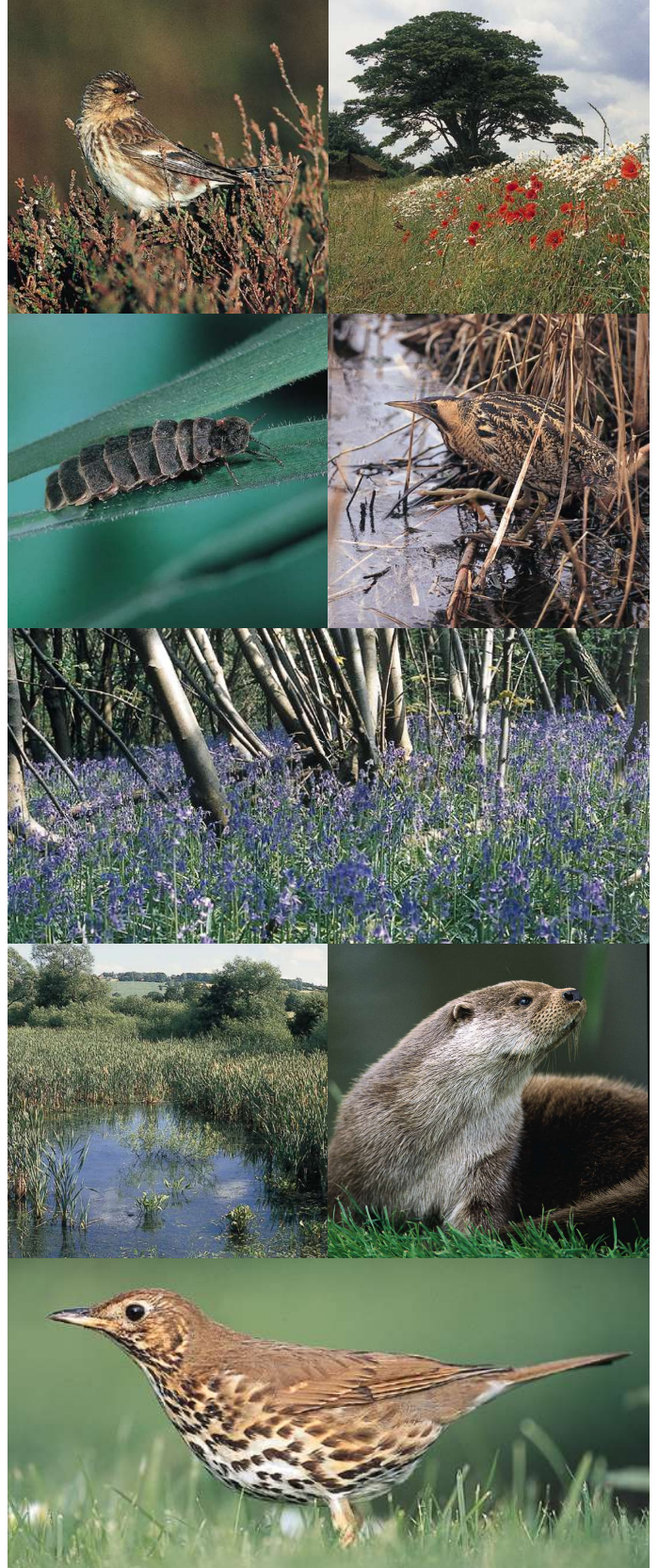


Barnsley Biodiversity Action Plan



Acknowledgements

The Barnsley Biodiversity Partnership

Barnsley Metropolitan Borough Council
Barnsley Bat Group
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British Trust for Ornithology
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Sorby Natural History Society
South Yorkshire Badger Group
Wakefield Naturalists Society
West Riding Farming and Wildlife Advisory Group
Yorkshire Naturalists Union
Yorkshire Wildlife Trust
and several individual wildlife conservationists

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Contents

Foreword
Introduction

Flagship Species Action Plans

FLS1 Otter
FLS2 Pipistrelle Bat
FLS3 Lapwing
FLS4 Barn Owl
FLS5 Bluebell
FLS6 Glow Worm

Habitat Action Plans

HAP1 Upland Oak Woodland
HAP2 Upland Mixed Ash Woodland
HAP3 Wet Woodland
HAP4 Parkland
HAP5 Ancient and Species-Rich Hedgerows
HAP6 Cereal Field Margins
HAP7 Floodplain Grazing Marsh
HAP8 Lowland Meadows
HAP9 Lowland Dry Acidic Grassland
HAP10 Lowland Heathland
HAP11 Upland Heathland
HAP12 Rush Pasture
HAP13 Reedbeds
HAP14 Ponds and Canals
HAP15 Running Water
HAP16 Standing Water
HAP17 Urban Built-Up Areas
HAP18 Post-Industrial Derelict and Degraded Land

Species Action Plans

SAP1 Brown Hare
SAP2 Water Vole
SAP3 Great Crested Newt
SAP4 White-Clawed Crayfish
SAP5 Bittern
SAP6 Grey Partridge
SAP7 Little Ringed Plover
SAP8 Skylark
SAP9 Song Thrush
SAP10 Tree Sparrow
SAP11 Twite
SAP12 Linnets
SAP13 Corn Bunting

Glossary



THE
MICHAEL CLEGG
MEMORIAL
TRUST

Foreword

Over the last decade, the pit yards and mining headgear, which dominated the skyline and the lives of people across South Yorkshire for so many generations, have been consigned to history and to folk memory, and with amazing speed. For over two hundred years, coal mining and its other allied heavy industries, was to exact a high cost in both human life and health and in the immediate environment. This prized mineral was exploited with no thought to either environmental or human costs. Polluted land, streams and rivers, and subsidence, were deemed to be an acceptable price to pay for a product which was the cornerstone of British industry. Dead rivers, streams running at times with 'red ochre', pollution incidents, and black spoilheaps, all were accepted as part of the price of coal.

Yet this hard-used and abused environment had its gems tucked away in all sorts of unexpected corners, sometimes yielding unexpectedly positive results.

Pit yards had their own particular colonies of birds, animals and plants, where nature had managed to find a toehold and subsidence (the bane of property holders) caused by the movement and collapse of structures deep underground, led to the creation of flashes throughout the valleys which, in turn, led to burgeoning wildfowl populations. A reclamation project, in the wake of opencast mining, led to the accidental creation of an interesting and diverse acid heath. . . because someone made a mistake when regrading the soil brought in to reclaim the landscape.

Now the landscape is reverting rapidly back to the 'Black Barnsley' so aptly described by Daniel Defoe in his journey around Britain begun back in 1722. It was not, he reminds his reader, called Black Barnsley on account

of the dark smoke emanating from the iron and steel workings, but rather because of the dark hue of the surrounding heather moorlands and dark deciduous woods. He further qualifies his remarks by saying it reminds him of Bagshot Heath near Windsor.

However, the passage of heavy industry and recent major re-landscaping projects does not mean that threats to the natural environment have also been consigned to the history books. As the following studies show, certain species can expand and multiply whilst others, inadvertently, may be threatened to the point of extinction due to subtle changes in building techniques, materials, and the chemicals used in their manufacture, as well as changes to farming practice and woodland management.

As dedicated field naturalist and assiduous recorder, and an optimist by nature, Michael was continually amazed and excited by the way in which species could adapt and survive within a constantly changing environment. However, evidence of abuse or wilful destruction of nature in any of its forms could find him aiming forthright but constructive criticism at the perpetrators, be they powerful corporations or individuals. Having spent his formative years in an area dominated by a mining industry which, firstly in private ownership and later state run by the NCB, Michael would be gratified and delighted both by the recent fantastic changes to the landscape and the fact that there are dedicated field naturalists still hard at work recording, monitoring, advising, encouraging and enthusing others on the subject of wildlife protection.

Pat Clegg
September 2000

A Local Biodiversity Action Plan for Barnsley

Introduction

Biodiversity is a now familiar, if somewhat cumbersome, term for richness and variety of natural life. This plan is thus about, and for, the wildlife and people of the Barnsley Borough.

It has been put together through the efforts of a partnership of many agencies, organisations and individuals (see acknowledgements) who share a common vision to produce a practical working document for the conservation and enhancement of local biodiversity, containing clear, measurable objectives from the information and knowledge currently available.

In her foreword Pat Clegg admirably sums up the context for this document, describing a landscape in parts of dramatic recent changes, but with some immense opportunities and a great variety of wildlife. In our small crowded island it is the actions of people that shape the fate of individual species of plant and animal and their natural and semi-natural habitats. The plan sets clear objectives therefore:

- To produce a tool for promoting and lobbying for the recognition of the importance of species and habitat conservation.
- To provide a clear framework and response mechanism to wider policies, plans and proposals.
- To produce clear and agreed species and habitat priorities for conservation action.
- To produce agreed targets for *what* we collectively want to achieve and by *when*.
- To produce a mechanism to monitor success or failure.

The plan process included an audit of the current state of biodiversity in Barnsley. This is contained in the separate technical appendix document. However, the action plan does not attempt to deal with everything in detail – it has identified priority species and habitats for the Borough, cross-referenced against national and regional priorities. These are set out as Flagship Species Action Plans, Habitat Action Plans and Species Action Plans. It identifies what needs to be done to conserve these species and habitats and adds particular targets, timescales and costs.

Each action plan deals with a particular species or habitat and can stand alone. However, together they provide a co-ordinated, focused strategy for wildlife conservation in Barnsley.

The plan remains not an end in itself but the starting point for action. The Partnership group will attempt to deliver certain of the actions and also to advocate, prompt and support the actions of others.

The plan is also envisaged as a dynamic document to be modified and added to, amended in the light of change and, hopefully, successes. In, say five years time, certain priority species may be in a more favourable position and others, not currently covered, may merit inclusion with a new set of targets.

One thing is certain and that is the scope for everyone to get involved. Whilst most individuals will have limited opportunity to influence the plans for, say, Reedbeds, Otter and Bittern, almost everyone can play a part in ensuring a future for Bluebell, Song Thrush and garden habitats rich in wildlife.

Places, people and wildlife of Barnsley will be the richer as the plan vision is turned into reality.

Flagship Species Action Plans

FLS1	Otter
FLS2	Pipistrelle Bat
FLS3	Lapwing
FLS4	Barn Owl
FLS5	Bluebell
FLS6	Glow Worm



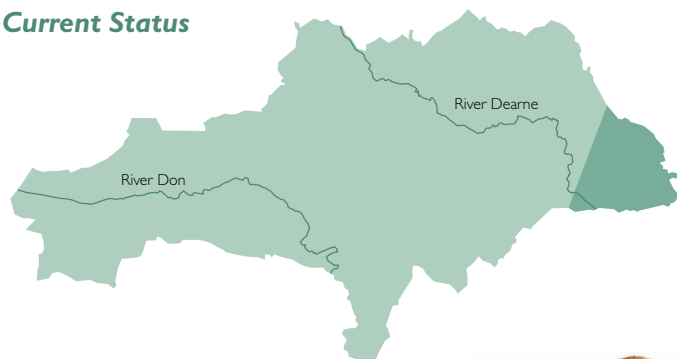
Flagship Species FLS1

Otter

Lutra lutra

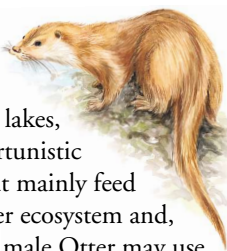


Current Status



Description

The Otter is a large member of the stoat and weasel family, which occurs in rivers, streams, lakes, marshes and coastal habitats. Otters are opportunistic hunters that will take a wide range of prey, but mainly feed on fish. The Otter is a top predator in the river ecosystem and, as such, it occurs at a naturally low density. A male Otter may use up to 40 km of watercourse. This would include main river as well as smaller tributaries, along with ponds, lakes, riverside woodland and wetlands. This use of a wide geographical and habitat type range means that a catchment-wide approach is essential to Otter conservation. Otters require a plentiful food supply. Eels are often particularly favoured. Amphibians and crayfish may be locally or seasonally important, and small mammals and birds are occasionally taken. Secure, undisturbed breeding sites and secure, undisturbed lying-up/resting sites are essential if Otters are to establish and maintain sustainable populations. One such 'lying-up' site is needed approximately every kilometre of watercourse.



National Status

Formerly widespread throughout the country, the Otter underwent a rapid decline from the 1950s to the 1970s, leaving the species absent from most of England.

Otters are now returning to many areas through natural re-colonisation, with the expansion of populations from Scotland, Wales, north and west England. This has been assisted in some parts by re-introductions. The UK Biodiversity Action Plan target is to restore breeding Otters to all river catchments where they were present before 1960.

Local Status

Historically, Otters were found throughout Yorkshire but by the 1980s were nearly lost from the county. South Yorkshire was particularly badly affected. However, increases in evidence of Otter activity have now been recorded in all parts of Yorkshire.

The Rivers Derwent and Esk were the subject of successful Otter release programmes by the Vincent Wildlife Trust and English Nature in the early 1990s, and it is hoped that these breeding populations will provide a source of Otters for neighbouring catchments.

In Barnsley there has been evidence of Otter activity along the Dearne Valley.

Legal Status

The Otter is listed in CITES and the Habitats Directive. It is protected under the Wildlife and Countryside Act 1981. The European sub-species is also listed as globally threatened on the IUCN/WCMC Red Data List.

Links with other Action Plans

The Otter plan links to the action plans for rivers and reedbeds. Species which will also benefit from this plan include Water Vole.

- HAP3 Wet Woodland
- HAP13 Reedbeds
- HAP14 Ponds and Canals
- HAP15 Running Water
- HAP16 Standing Water
- SAP2 Water Vole
- SAP5 Bittern

Current Factors Causing Loss or Decline

- Water quality
Pollution from many sources, including agricultural run-off and heavy metal contamination, is a problem.
- Loss of habitat
Intensification of river management has led to loss of Otter habitat.
- Insufficient food
Associated with lower water quality, which results in a reduction in fish stocks. Particularly a problem as eel stocks are very low in some areas.
- Accidental death
Road traffic accidents are probably the biggest single threat to the re-establishment of a thriving Otter population.

- Disturbance
Otters need some quiet areas for resting and breeding. Increasingly, these are becoming unavailable.
- Population fragmentation
Increasingly, populations are being isolated by new roads, canalisation, development and loss of habitat.

Current Local Action

- Yorkshire Otters and Rivers Project provides advice and undertakes survey work. LEAP plans include targets and actions for encouraging Otters.
- Development of wetlands on restored areas is providing new habitat. Old Moor Wetland Centre includes an artificial Otter holt.

Proposed Local Action

ACTION	TARGET	COSTS
Establish a voluntary river warden scheme on the River Dearne.	2001/2002	£500
Annually monitor the River Dearne for Otter and also other relevant species.	2001-2010	£250 pa = £2,500 total
Provide a leaflet on Otter for fishing clubs and others.	2002	£1250
Provide suitable improvements to bridges along the lower Dearne so as not to restrict Otter.	2005	Environment Agency Barnsley MBC
Provide an artificial Otter holt each year along the Dearne (10 holts).	2001-2010	£500 per holt = £5,000 total
Undertake one river corridor improvement to benefit Otter.	2005	Environment Agency
Create a pond complex at a suitable location along the river corridor.	2010	£10,000 +

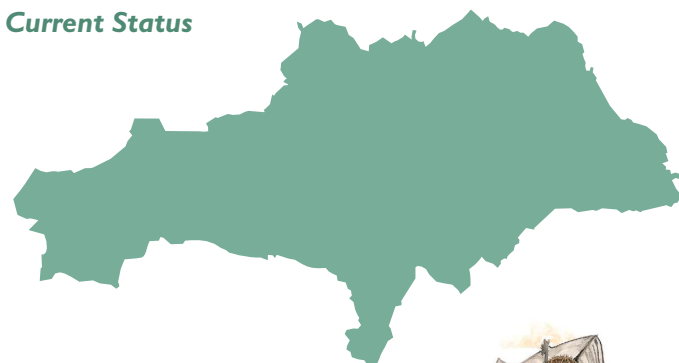
Flagship Species FLS2

Pipistrelle Bat

Pipistrellus pipistrellus
Pipistrellus pygmaeus



Current Status



Description

Pipistrelles are the smallest European bats, common in towns and suburbs – normally seen flitting around gardens and street lights, hedgerows, woodland edges and over water, feeding on small insects.



Buildings are the favoured location for summer roosts, with more than half of those found being in houses less than 25 years old. Little is known of winter roost requirements.

National Status

Although it remains the most abundant and widespread bat species in the UK, the Pipistrelle is thought to have undergone a significant decline in numbers of about 70% between 1978 and 1983 (National Bat Colony Survey).

The problems of estimating population trends have been compounded by the recent discovery that there are two distinct species of Pipistrelle Bat in the UK; *Pipistrellus pipistrellus*, Common or Masked Pipistrelle and *Pipistrellus pygmaeus*, Brown or Soprano Pipistrelle.

Local Status

The Pipistrelle has a widespread distribution in the Barnsley area, having been recorded in 86 (22.2%) of the one km grid squares which cover the district. This figure is based on existing records and is almost certain to be a gross underestimate of the true population. Some 62 known summer roosts have been recorded, including one at Worsbrough which is at least of regional (if not national) significance in terms of its size. This colony is thought to be *Pipistrellus pygmaeus*. All Pipistrelle records will require re-surveying to separate the species.

Legal Status

All bats in the UK are fully protected under the Wildlife and Countryside Act 1981 and the Conservation (Natural Habitats, etc) Regulations 1994.

In addition, Planning Policy Guidance: Nature Conservation (PPG 9, 1994) gives direction to Local Authorities and others that protected species are a material consideration in their decision making with regard to development proposals, etc.

Links with other Action Plans

Bats are likely to benefit from improvements included in the following action plans:

- HAPI Upland Oak Woodland
- HAP2 Upland Mixed Ash Woodland
- HAP3 Wet Woodland
- HAP4 Parkland
- HAP5 Ancient and Species-Rich Hedgerows
- HAPI4 Ponds and Canals
- HAPI5 Running Water
- HAPI6 Standing Water
- HAPI7 Urban Built-Up Areas

Current Factors Causing Loss or Decline

- Disturbance and distribution of roosts due to building works, tree felling, etc. Particular concern for summer maternity roosts where non-flying babies are unable to escape disturbance, and winter hibernation roosts where bats in a torpid condition are unable to fly.
- The use of toxic timber treatment chemicals in buildings.
- Loss of feeding habitat through changes in land use and farming practices, resulting in the loss of insect rich feeding habitats such as wetlands, broadleaved woodland and unimproved grasslands.
- The loss of linear landscape features such as tree lines and hedgerows may also isolate roost sites from suitable feeding areas.

Current Local Action

- Regular monitoring of a small number of roosts for the National Bat Monitoring Programme and National Bat Colony Survey.
- Ongoing survey work to identify new roost sites and feeding areas.
- Survey visits where SNCO (English Nature) have been consulted about work which may disturb bats.
- Telephone and on-site advice to roost owners.
- Rescue and rehabilitation of sick and injured bats.
- Maintenance of a database of bat records for the Barnsley area.
- Guided walks and talks to improve the public's understanding and tolerance of bats.

Proposed Local Action

ACTION	TARGET	COSTS
Agree protocol with Local Authority (LA) planners for improved consultation on proposals which might affect bats; ie renovation and/or demolition of old buildings, tree felling/pruning, bridge repairs, habitat loss etc.	Spring 2002	No cost
Provide guidance notes for LA and private sector professionals whose work impacts on bats ie Planners, Architects, Highway and Bridge Engineers, Environmental Health (Pest Control), Timber Treatment Companies and Arborists.	End 2002	Printing and distribution cost £500
Carry out a survey of the River Dearne in order to identify important feeding areas for bats and areas where habitat improvements could be made.	End 2002	Volunteer expenses for survey £250
Circulate questionnaires to all known or previous roost owners to update records and assess extent of roost loss.	End 2002	Postage cost £50
Provide an 'Introduction to Bats' training course to recruit suitable candidates for licence training.	Introductory course in 2002	Room hire and training materials £25
Increase the number of local licensed bat workers by providing an EN Licence training course.	Licence Training course in 2002. Two new licensed bat workers by 2002	Room hire and training materials £75
Increase the number of summer colony counts submitted to the National Bat Monitoring Programme.	Four in 2002 Six in 2003	No cost
Increase public education and information through guided walks, talks and local publicity.	Three guided walks/talks per year	No cost
Aim to encourage roost owners to join the National Bat Monitoring programme.	Two in 2002 Five in 2003	No cost
Monitor planning application list to identify proposals which might affect bats and to measure LA compliance with PPG 9 and highway design manual.	Ongoing	No cost
Identify at least ten new roost sites.	2002	No cost
Provide seminars to LA Planning staff.	2002	No cost
Provision of survey equipment.	2002/2003	£500

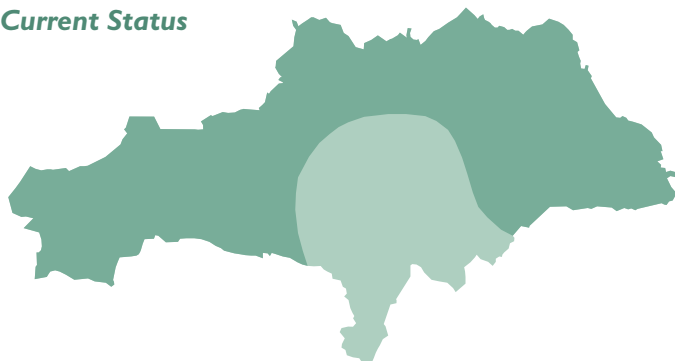
Flagship Species FLS3

Lapwing

Vanellus vanellus



Current Status



Description

With its slow, flappy flight of flickering black and white and 'pee-wit' call, the Lapwing is hard to mistake. In spring, males have a tumbling display flight.

Close inspection reveals the iridescent green of the upper parts, purple and copper at the wing bends, a black and buff facial pattern, a wispy black crest and pink legs.

In spring and summer, breeding birds prefer mixed farmland, avoiding trees and hedges. Preferred nesting crops include spring-drilled cereals, legumes, roots and rotational set-aside. Lapwing do not nest in autumn- or winter-drilled cereals as these become too tall by the start of the breeding season.

Wet grasslands are an important breeding habitat and particularly if there is a nearby shallow area containing water.

In winter, permanent grassland, winter stubble and fallow fields are preferred by flocks of lapwing, but if the weather is too harsh they move to Ireland and south-west England.



National Status

The Lapwing was a common and familiar breeding species of bare ground and short vegetation throughout the British Isles.

The decline of the species started in the 19th century due to changes in agriculture such as drainage, enclosures and egg collecting.

The Lapwing Act (1926) put restrictions on egg collecting which greatly reduced the scale of egg gathering and, combined with agricultural depression at that time, there was a rapid recovery in numbers. However, as agricultural intensification increased during the 1960s, there was a parallel decline in breeding Lapwings. Between 1987 and 1998 the breeding population dropped by 48% in England.

Local Status

Once a common breeding species, there has been a marked decline due to drainage and, particularly, agricultural intensification.

The present breeding population possibly exceeds 400 pairs, with at least 150 pairs in the Dearne Valley. The Dearne Valley also holds the main wintering population of at least 3000 birds.

Legal Status

The Lapwing is 'amber listed' in *Birds of Conservation Concern in the UK* because it winters in internationally important numbers.

Links with other Action Plans

- HAP7 Floodplain Grazing Marsh
- HAP8 Lowland Meadows
- HAP9 Lowland Dry Acidic Grassland
- HAP12 Rush Pasture

Current Factors Causing Loss or Decline

In a survey in 1987, over 90% of Lapwings found breeding were on agricultural land. A number of changes in farming practices have had a serious effect on Lapwing populations. These changes are highlighted as follows:

- Loss of spring sown cereals.
- Loss of unimproved grassland and intensification of grassland management.
- An increase in livestock numbers and trampling rates.

- A reduction of mixed farming.
- Drainage of marginal grasslands.

Current Local Action

The landscaping of Old Moor Wetland Centre in the Dearne Valley has created an improved and safe habitat for breeding Lapwing and has provided a safe winter roost site for large numbers of birds. Other local action is limited; some recording is carried out by Barnsley Bird Study Group.

Proposed Local Action

ACTION	TARGET	COSTS
Survey of breeding population in Barnsley, research past population and produce a report.	2001	£1,000
Farm conservation open day on appropriate farm or local show to highlight the needs of Lapwing.	2002	£500
Produce a leaflet about land management for Lapwing.	2002	£1,250
Survey of breeding population in Barnsley.	2006	£1,000

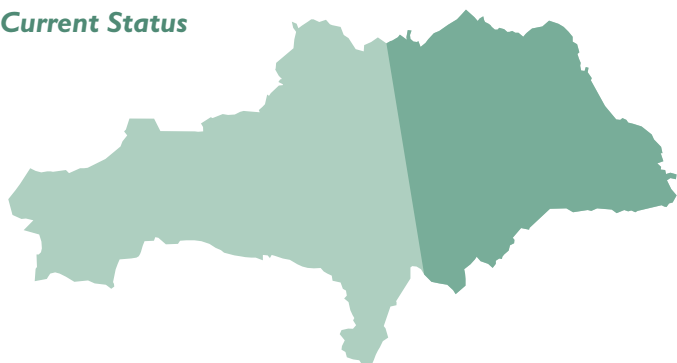
Flagship Species FLS4

Barn Owl

Tyto alba



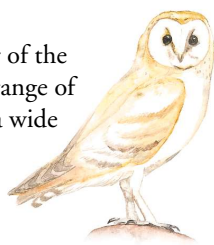
Current Status



Description

The Barn Owl is the ghost-like, white owl of country folklore. The upperparts are pale orange-buff with white underparts. The bird is often seen hunting the fields and hedgerows during the last light of the day. The Barn Owl is found in almost every continent and is one of the most widely distributed land birds in the world. It nests and roosts in tree cavities, old and derelict farm buildings and barns, and feeds mainly on small mammals such as rats, mice, voles and shrews.

The presence of Barn Owls is a good indicator of the health of biodiversity in lowland areas, as the range of habitats needed by the species is also vital for a wide range of other animals and plants.



National Status

The Barn Owl was quite a common sight in the 19th century, but the UK population has fallen by an estimated 90% since 1830.

The decline has been particularly sharp in the last half of the 20th century, mainly due to agricultural intensification. Recent national population figures (1996) put numbers at 3,750 pairs in England and Wales and 650 pairs in Scotland. With the addition of some non-breeding birds, the total figure is around 10,000 birds.

Local Status

Described in 1844 by naturalist Dr Farrar as being 'abundantly numerous everywhere' but now, sadly, fairly scarce. Most Barn Owls in the area are located in the eastern half of Barnsley where there are still extensive areas of rough grassland on post-industrial land. Currently there are around 12 pairs in the Borough (survey carried out by Carr and Massey, 1996).

Legal Status

Protected in Britain under Schedule 1 and Schedule 9 (since 1 Jan 1993) of the Wildlife and Countryside Act, 1981; EC Birds Directive; Appendix 1 of Bern Convention. It is a priority species under European Law. It is an offence to kill or injure a Barn Owl or to disturb it while it is using a nest.

Links with other Action Plans

- HAP5 Ancient and Species-Rich Hedgerows
- HAP6 Cereal Field Margins
- HAP7 Floodplain Grazing Marsh
- HAP8 Lowland Meadows
- HAP9 Lowland Dry Acidic Grassland
- HAP14 Ponds and Canals
- HAP15 Running Water
- HAP18 Post-Industrial Derelict and Degraded Land

Current Factors Causing Loss or Decline

The main factor for the decline of the Barn Owl is thought to be the loss of suitable feeding habitat, resulting from the intensification of agriculture. Contributory factors are believed to be past severe winters, toxic pesticides in the 1950s to 1970s, second generation rodenticides in the 1980s and 1990s and urbanisation (including increased mortality due to road traffic).

Current Local Action

Some private landowners manage areas of actual or potential Barn Owl habitat and have a vital part to play in conserving the species. New areas of suitable habitat have been created on post-industrial land that will help to maintain the species. Barn Owls have been monitored in the past by the BTO/Hawk and Owl Trust, by BTO/FWAG and Barnsley Bird Study Group recorders.

Proposed Local Action

ACTION	TARGET	COSTS
Agree protocol with LA Planners for improved consultation on proposals which might affect Barn Owl.	2002	Nil
Promote good habitat for Barn Owl and appropriate management through a farm conservation day at an exhibition farm.	2002	£500
Provide interpretation on Barn Owl for appropriate management and conservation.	2003	£1,250 total
Provide nest boxes and install at suitable sites.	2002-2010	£2,000
Survey of Barn Owl population in Barnsley.	2006	£1,500

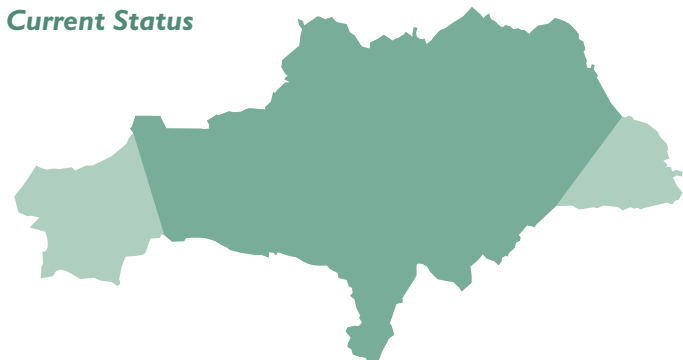
Flagship Species FLS5

Bluebell

Hyacinthoides non-scripta



Current Status



Description

The Bluebell is a widespread and popular plant of ancient and semi-natural woodlands. It is a species most associated with well-managed woodlands and, in particular, coppiced woods. The UK is thought to hold at least 20% of the global population. The Bluebell is found mainly in the western part of the Borough where ancient and semi-natural woodlands occur. It is located in 103 one kilometre squares in the Borough (26.6% of total area).



National Status

The better Bluebell woodlands in the country occur in natural and semi-natural habitats and are well represented in managed and, particularly, coppiced woodlands.

A national decline has occurred, due to some loss of woodlands but, possibly, also due to the overplanting of ancient woodland sites with conifers. Such overplanting causes continuous shading and, hence, conditions unsuitable for Bluebells.

Collecting of Bluebells for commercial use has been a problem in some parts of the country.

Local Status

Bluebells are located in natural and semi-natural woodland throughout the Borough. They are found in 26.65% of the total area of the Borough.

Legal Status

The Bluebell is now protected as a schedule plant species under the Wildlife and Countryside Act, 1981.

Links with other Action Plans

- HAP1 Upland Oak Woodland
- HAP2 Upland Mixed Ash Woodland
- HAP5 Ancient and Species-Rich Hedgerows
- HAP17 Urban Built-Up Areas

Current Factors Causing Loss or Decline

- Overplanting Bluebell abundant woodlands with conifers causing loss through shading.
- Unmanaged woodlands contribute to the decline of the plant.
- Invasive species such as bracken (in unmanaged areas) or lack of traditional coppicing management will cause a decline of Bluebell
- Collecting Bluebell for commercial use.
- Threat from Deer.

Current Local Action

- Increasing implementation of appropriate management of some woodland areas.
- Some local recording is being carried out by naturalists and individuals.

Proposed Local Action

ACTION	TARGET	COSTS
Desktop survey to identify current and past Bluebell woodlands.	2002	£500
Field survey of Bluebell woodlands.	2002-2003	£1,000
Provide an information and action sheet for management of Bluebell woodlands.	2002	£1,250
Encourage schools to adopt a Bluebell wood and produce worksheets.	2003	£1,000

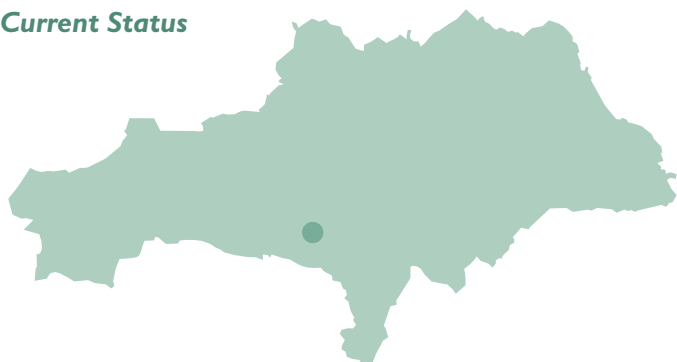
Flagship Species FLS6

Glow Worm

Lampyris noctiluca



Current Status



Description

The Glow Worm is a fairly large beetle; the winged male is 10-12 mm long and the wingless female 15-20 mm. They are active only after dark and so need good cover to conceal themselves from predators.

Grassland vegetation, logs, cracks and crevices with humid conditions are ideal habitats. In addition, the female needs a prominent position such as a bank, hummock, tussock or similar feature, to attract a passing male.

Adult Glow Worms are active between June and August in a short summer breeding period during which they do not feed and after which they die.

How do Glow Worms glow? The Glow Worm's light is produced by a series of chemical reactions within the cells of the female's light organ. Oxidation of an active chemical, luciferin, in the presence of a catalyst, luciferase, causes the shedding of atoms and a release of energy in the form of light. The reaction is extremely efficient wasting only 2% of its energy as heat. As a consequence a brilliantly glowing female remains cold to the touch.



National Status

Many sites which contained Glow Worms have been unknowingly destroyed and their habitat fragmented; this leads to group isolation and the extinction of a local population.

Most Glow Worm sites are in southern England but there are isolated colonies north into Scotland. Throughout the UK there is a gradual decline of the species due mainly to habitat loss, but also due to pollution, insecticides, loss of food (various snail species) and changes in climate.

Local Status

There is currently one known site in Barnsley at Thurgoland.

Legal Status

There is no legal protection for the species.

Links with other Action Plans

- HAP5 Ancient and Species-Rich Hedgerows
- HAP8 Lowland Meadows
- HAP17 Urban Built-Up Areas

Current Factors Causing Loss or Decline

Mainly due to loss of improved grasslands but also due to the loss of ancient hedgerows, woodland fringe and banks.

Current Local Action

There has been some attention given to identifying the distribution of the species in Barnsley, but currently there is only one site. There has been no habitat management to retain or expand the Glow Worm population.

Proposed Local Action

ACTION	TARGET	COSTS
Survey/monitoring of Thurgoland site.	2001-2010	£50 pa
Double the number of adult individuals at the Thurgoland site through volunteer tasks.	2003	£600 (two annual tasks)
Establish additional colonies at two suitable locations, subject to food source link.	2005	£600 (two separate area tasks)

HELP PLEASE!

Are there any other Glow Worm sites in Barnsley?

Good information is a key to good conservation. If you discover a new Glow Worm site, please send details to: Countryside Unit, Barnsley MBC, Planning Services, Central Offices, Kendray Street, Barnsley S70 2TN. Please provide location, date/time and number of individuals seen.

Please note: detailed locations will not be disclosed to others so that the colonies can remain safe.

Habitat Action Plans

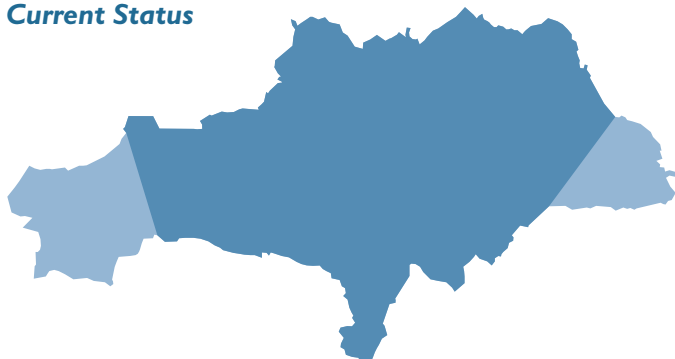
- HAP1 Upland Oak Woodland**
- HAP2 Upland Mixed Ash Woodland**
- HAP3 Wet Woodland**
- HAP4 Parkland**
- HAP5 Ancient and Species-Rich Hedgerows**
- HAP6 Cereal Field Margins**
- HAP7 Floodplain Grazing Marsh**
- HAP8 Lowland Meadows**
- HAP9 Lowland Dry Acidic Grassland**
- HAP10 Lowland Heathland**
- HAP11 Upland Heathland**
- HAP12 Rush Pasture**
- HAP13 Reedbeds**
- HAP14 Ponds and Canals**
- HAP15 Running Water**
- HAP16 Standing Water**
- HAP17 Urban Built-Up Areas**
- HAP18 Post-Industrial Derelict and Degraded Land**



Upland Oak Woodland



Current Status



Description

Upland Oakwoods are characterised by a predominance of Oak (most commonly Sessile Oak, but locally Pedunculate Oak) and Birch in the canopy, with varying amounts of Holly, Rowan and Hazel as the main understorey species. The range of plants found in the ground layer varies (according to the underlying soil type and degree of grazing) from Bluebell-Bramble-Fern communities through Grass-Bracken dominated ones.

Most Oakwoods also contain areas, often along streams or towards the base of slopes, where much richer communities occur. In such areas Ash and Elm occur in the canopy, and there is more Hazel in the understorey. Ground plants include Dog's Mercury *Mercurialis perennis*, Ramsons *Allium ursinum* and Tufted Hair Grass *Deschampsia cespitosa*. Many Oakwoods also hold a distinctive breeding bird assemblage – Redstart *Phoenicurus phoenicurus*, Wood Warbler *Phylloscopus sibilatrix* and Pied Flycatcher *Ficedula hypoleuca* being associated with them throughout much of their range. The invertebrate communities are not particularly well-studied compared to those in some other woodland types but Oakwoods can support a range of notable species, including the locally-rare Purple Hairstreak Butterfly *Quercusia quercus*.

National Status

There are no precise figures for the total extent of this woodland type, but it is believed to be between about 70,000 and 100,000 ha, mainly in the north and west of the UK. For some of the distinctive species present, Britain and Ireland hold a substantial part of the World/European population.

Upland semi-natural woods have declined by about 30-40% in area over the last 60 years as a result of replanting, mainly with introduced conifers, clearance for quarries or other developments in some areas, and from conversion to rough grazing.

Yorkshire has more than 300 ha of this woodland, a figure which underestimates the actual extent. The region undoubtedly has a significant proportion of the national total.

Local Status

This type is well represented in Barnsley by 30 woodlands. Eight of these are included in the Natural Heritage Site (NHS) register by being of high local value. Mainly found in the west and south-west of the Borough, these include Hollin and Spring Woods at Langsett; Wharnccliffe Wood and Chase; West Wood at Hoyland; Wombwell Wood (the biggest single wood in the area); Sunny Bank, Horse Carr, Storrs Mill and West Haigh Woods in the Dearne Valley; and Hoyland Bank to the north. The habitat is also important for the locally-rare Redstart and Wood Warbler.

Legal Status

National forestry policies include a presumption against the clearance of any broadleaved woodland for conversion to other land uses and seek to maintain the ecological interest of ancient semi-natural woodland. Felling licences will normally be required if the woods are not managed under plans approved by the Forestry Authority.

Management of semi-natural woodlands, including Upland Oakwoods, has to be in accordance with guidelines published by the Forestry Authority in order to receive felling licences or grant-aid.

The sites in Barnsley identified as Natural Heritage Sites have a presumption against planning permission for change of land use.

Links with other Action Plans

FLS2	Pipistrelle Bat
FLS5	Bluebell

Current Factors Causing Loss or Decline

- Over-grazing by sheep and deer throughout much of the range of the woods.
- Invasion by species such as rhododendron, which shades out the ground layers and eliminates much of the conservation interest.
- Development pressures such as new roads and quarrying.
- Effects of air pollution, especially on lichen and bryophyte communities.
- In some cases, unsympathetic forest management, where felling rates, choice of broadleaf species planted, or methods of working do not yet reflect published guidelines.

Current Local Action

A number of sites have been listed in the Council's Unitary Development Plan as locally important sites with a presumption against development.

West Haigh Wood, owned by Barnsley MBC, has a Management Plan.

The South Yorkshire Forest project covers part of the Borough and includes woods of this type.

Proposed Local Action

ACTION

TARGET

COSTS

Monitor Woodland Grant Scheme to ensure that proposals affecting NHS sites are appropriate and do not include inappropriate species.

Ongoing

No cost

Survey NHS sites to assess current management practice and identify priorities for improvement.

Survey by mid-2002
Strategy by end 2002

Volunteer expenses
£100 per site

Identify ownership of important areas for nature conservation, particularly NHS sites.

Complete by end 2002

Volunteer expenses £100

Research historical data to identify woods that have been lost or reduced in size.

Complete research by
end 2003

Volunteer expenses £100

Review Ancient Woodland Inventory and update if appropriate.

Complete review by
end 2005

Volunteer expenses £100

Develop strategy for identifying suitable areas for restoration and expansion by adding to or joining existing woods, without loss of other priority habitats.

Develop strategy by
end 2003
Create 10 ha by 2005

Volunteer expenses £250
Planting costs £5,000/ha

Encourage the recognition of the nature conservation value by owners and land managers and seek to influence management practices.

Target all private
owners with letter and
leaflet by 2003

Volunteer expenses £250

Develop management plans for all publicly owned NHS sites.

Complete by 2003

Fees £2,000 per site

Secure favourable management practices for all privately owned NHS sites.

One per year from 2003

Advice £500

Support practical efforts to control and remove invasive species including rhododendron.

Support two tasks per year

Task costs
£100 per task

Provide interpretation material to promote the importance of this woodland type.

Provide interpretation at
one site by 2005

£2,500

Provide advice to landowners and managers on grant aid and management techniques.

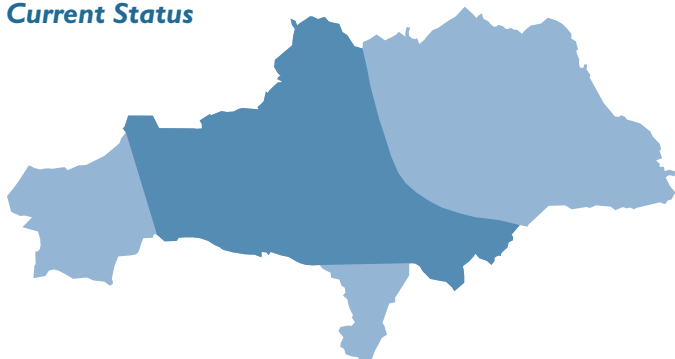
Ongoing

No cost

Upland Mixed Ash Woodland



Current Status



Description

The term Upland Mixed Ashwoods is used for woods on base-rich soils in the north and west, in most of which Ash is the major species, although locally Oak, Birch, Elm, Small-leaved Lime and even Hazel may be the most abundant species. Alder may occur where there are transitions to wet woodland. Despite variations in canopy composition, the ground flora remains broadly similar. Upland in the name reflects the abundance of this type of woodland on base-rich soils in upland Britain rather than the altitude at which individual sites occur.

The type is also found on more acid poorly-drained soils where there is flushing of nutrients. Often these are just small fragments with irregular margins or narrow strips along flushes, riparian tracts, outcrops and steep banks. Most Upland Mixed Ash Woodlands are probably ancient, but Ash is a vigorous colonist of open ground. Many woods have been treated as coppice in the past, others have been wood-pastures, but most now have a high forest structure.

Mixed Ash Woodlands are amongst the richest habitats for wildlife in the uplands, notable for bright displays of flowers such as Bluebell *Hyacinthoides non-scripta*, Wood Cranesbill *Geranium sylvaticum* and Wild Garlic *Allium ursinum*. Some rare native trees are found in these woods, notably Large-leaved Lime *Tilia platyphyllos* and various Whitebeams (*Sorbus spp.*). The remains of dead trees such as old Elm trees provide habitat for rare beetles, flies and other invertebrates. Cavities in Ash trees are probably the most common roosting site for Noctule Bat *Nyctalus noctula*. The type is also of value for the locally-rare White-letter Hairstreak Butterfly *Strymonidia w-album*, which feeds on Elm *Ulmus glabra/Ulmus procera*.

National Status

There is no precise data on the total extent of Upland Mixed Ash Woodlands in the UK, but in the late 1980s the Nature Conservancy Council estimated the total extent of ancient semi-natural woodland of this type to be 40,000-50,000 ha. It has declined in area by clearance, overgrazing and replanting with non-native species, by about 30-40% over the last 50 years. A crude estimate places the total area of upland ashwood at 67,500 ha.

Local Status

This type is well represented locally by 28 woods (or parts of woods) and nine of these are included in the Natural Heritage Site (NHS) register by being of high local value.

All but two are in the west of M1 woodland belt: Clough Wood, Royd Wood, Margery Wood, Silkstone Beck, Hugset Wood, Broom Royd Wood, and West Wood, with Short Wood and Skiers Spring Wood at Hoyland. Part of the latter is also included in the Oak/Birch category.

Legal Status

National forestry policies include a presumption against clearance of any broadleaved woodland for conversion to other land uses, and seek to maintain the special interest of ancient semi-natural woodland. Felling licences will normally be required if the woods are not managed under plans approved by the Forestry Authority.

Management of semi-natural woodlands, including Upland Ashwoods, has to be in accordance with guidelines published by the Forestry Authority to receive felling licences or grant-aid.

The sites in Barnsley identified as Natural Heritage Sites have a presumption against planning permission for change of use. Individual or groups of trees may be protected by Tree Preservation Orders (TPOs) or if they fall within a Conservation Area.

Links with other Action Plans

FLS2	Pipistrelle Bat
FLS5	Bluebell

Current Factors Causing Loss or Decline

- Overgrazing by sheep, deer and rabbits, leading to change in the woodland structure, ground flora impoverishment and difficulties for regeneration.
- Invasion by Sycamore, Beech and other species which are generally not native to these woods in most of Britain, leading to changes in the composition of the woods.
- Dutch Elm disease has changed the structure and composition of many woods since the early 1970s, and recurrence may still be affecting them. Canopies opened by disease may be subject to higher rates of windthrow, and invasion of the gaps by unrepresentative species becomes more likely.
- Quarrying, particularly of carboniferous limestone in England and Wales, has destroyed and continues to threaten some sites.
- Replacement of native trees with planted conifers was a major threat until the early 1980s. Large-scale felling and modification of the composition of the woodland by intensive planting of inappropriate broadleaved species may reduce the diversity of the woodland.

- Agricultural practices may lead to simplification of the landscape and greater ecological isolation of these woods through the removal of trees in field boundaries and small patches of ash-rich scrub in fields. Locally, nutrient enrichment, leading to changes in soils and ground flora, may occur from spray drift or run-off from adjacent agricultural land.
- Cessation of traditional management practices such as coppicing may, in some areas, lead to a reduction in structural diversity within the woods.
- Climate change, potentially resulting in changes in the vegetation communities.

Current Local Action

A number of sites have been listed in the Council's Unitary Development Plan (UDP) as locally important sites with a presumption against development. The South Yorkshire Forest project covers part of the Borough and includes woods of this type.

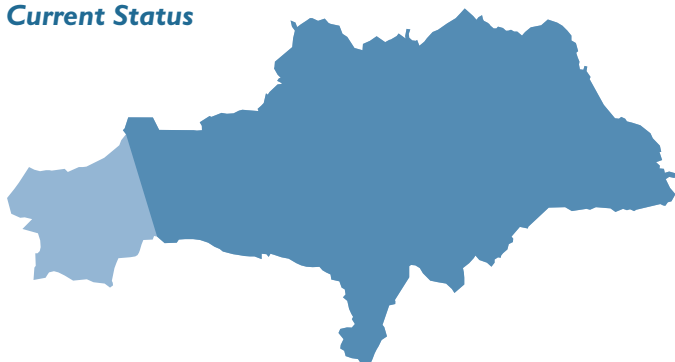
Proposed Local Action

ACTION	TARGET	COSTS
Monitor Woodland Grant Scheme to ensure that proposals affecting NHS sites are appropriate and do not include inappropriate species.	Ongoing	No cost
Survey NHS sites to assess current management practice and identify priorities for improvement.	Survey mid-2002 Strategy end 2002	Volunteer expenses £250
Identify ownership of important sites for nature conservation, particularly NHS sites.	Complete by end 2002	Volunteer expenses £100
Research historical data to identify woods which have been lost or reduced in size.	Complete research by end 2003	Volunteer expenses £100
Review Ancient Woodland Inventory and update if appropriate.	Complete review by end 2005	Volunteer expenses £100
Develop strategy for identifying suitable areas for restoration and expansion by adding to or joining existing woods, without loss of other priority habitats.	Develop strategy by end 2003 Create 10 ha by 2005	Volunteer expenses £250 Planting costs £5,000/ha
Encourage the recognition of the nature conservation value by owners and land managers and seek to influence management practices.	Target all private owners with letter and leaflet by end 2003	Volunteer expenses £250
Develop management plans for all publicly owned NHS sites.	Complete by 2005	Fees/Ecologist £2,000 per site
Secure favourable management practices for all privately owned NHS sites.	One per year from 2002	Advice £500
Support practical efforts to control and remove invasive species including rhododendron.	Support two tasks per year	Task costs £100 per task
Provide interpretation material to promote the importance of this woodland type.	Provide interpretation at one site by 2005	£2,500
Provide advice to landowners and managers on grant-aid and management techniques.	Ongoing	No cost

Wet Woodland



Current Status



Description

Wet Woodland occurs on poorly drained or seasonally wet soils, usually with Alder, Birch and Willow as the main tree species, but sometimes including Oak, Ash, Pine and Beech on the drier areas. It is found on floodplains, as successional habitat on fens, mires and bogs, along streams and hill-side flushes, and in peaty hollows. Wet Woods frequently occur in mosaic with other woodland types and with open habitats such as fens.

Wet Woodland combines elements of many other ecosystems and, as such, is important for many plants and animals. The high humidity favours bryophyte growth. The number of invertebrates associated with Alder, Birch and Willow is very large and even quite small seepages may be valuable. There are often large amounts of dead wood, and its association with water, including log jams in streams, provides specialised habitats not found in dry woodland types. Wet Woodland provides cover and breeding sites for Otter *Lutra lutra* and Noctule Bat *Nyctalus noctula*. While few rare plant species depend on Wet Woodland, there may be relict species from former open wetlands on the sites.

National Status

There are no precise figures for the total extent of Wet Woodland in the UK, but in the late 1980s the Nature Conservancy Council estimated the total extent of this type in ancient semi-natural woodland to be about 25,000-30,000 ha. The area of recent Wet Woodland may be at least as large again. Thus, a crude estimate of the total Wet Woodland area in the UK is 50,000-70,000 ha. In Yorkshire, surveys have found 343 ha, but this is only a small proportion of the real extent.

Local Status

This type is well represented in the Barnsley area, particularly in streamside areas of Alder or Willow, of which there are 67 examples. There are 18 areas of carr woodland with Worsbrough Reservoir and Gunthwaite Dam the best examples, 10 examples of wet areas within woodlands and one of scattered Willows. Some 28 of these sites are included in the Natural Heritage Site (NHS) register.

Legal Status

National forestry policies include a presumption against the clearance of any broadleaved woodland for conversion to other land uses, and in particular seeks to maintain the ecological interest of ancient semi-natural woodland. Felling licences will normally be required if the woods are not managed under plans approved by the Forestry Authority. Management of semi-rural woodlands has to be in accordance with guidelines published by the Forestry Authority to receive felling licences or grand-aid.

The sites in Barnsley identified as Natural Heritage Sites have a presumption against planning permission for change of use. Individual groups of trees may be protected by Tree Preservation Orders (TPOs) or may be within a Conservation Area.

Links with other Action Plans

FLS1	Otter
FLS2	Pipistrelle Bat
HAP15	Running Water
SAP3	Great Crested Newt

Current Factors Causing Loss or Decline

- Clearance and conversion to other land-uses, particularly in woods recently established on wetland sites.
- Cessation of management in formerly coppiced sites may encourage succession to drier woodland types.
- Lowering of water-tables through drainage or water abstraction, resulting in change to drier woodland types.
- Inappropriate grazing levels and poaching of soil, leading to a change in the woodland structure and ground flora impoverishment.
- River and flood control projects, preventing natural change.
- Poor water quality due to pollution.

- Invasion by non-native species such as Himalayan balsam.
- Air pollution affecting bryophyte and lichen communities.
- Wet Woodland trees such as Alder are increasingly affected by diseases.
- Climate change, potentially resulting in changes in the vegetation.

Current Local Action

A number of sites have been listed in the Barnsley Metropolitan Borough Council's Unitary Development Plan (UDP) as locally important sites with a presumption against development.

The South Yorkshire Forest Project includes a number of sites.

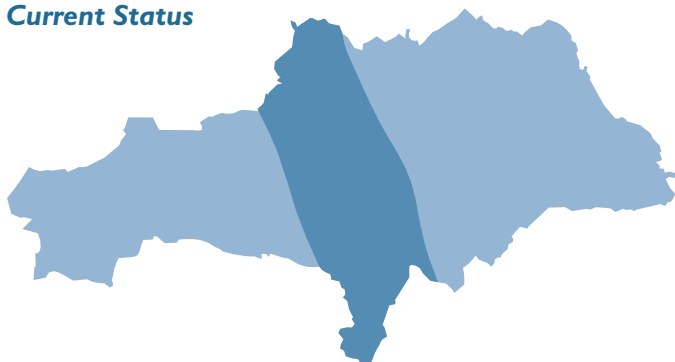
Proposed Local Action

ACTION	TARGET	COSTS
Monitor Woodland Grant Scheme to ensure that proposals affecting NHS sites are appropriate and do not include inappropriate species.	Ongoing	No cost
Develop a protocol with Local Planning Authority to ensure that NHS sites are not lost to development, highway or drainage schemes etc.	2002	No cost
Review the Environment Agency report on the feasibility of restoring areas of washland to nature conservation use.	Prepare outline strategy by end 2002	No cost
Survey NHS sites to assess current management practice and identify priorities for improvement.	Complete review by mid-2003. Strategy by end 2003	Volunteer expenses £100 per site
Research historical data to identify woods which have been lost or reduced in size.	Complete research by end 2003	Volunteer expenses £100
Identify ownership of important areas for nature conservation, particularly NHS sites.	Complete by end 2002	Volunteer expenses £100
Identify appropriate areas to create new Wet Woodland.	Identify target areas by end 2002. Create 5ha by 2005	Volunteer expenses £250 Planting costs £5,000/ha
Develop management plans for all publicly owned NHS sites.	Complete by 2003	Fees £2,000 per site
Support practical efforts to manage or plant Wet Woodland.	Support two tasks per year	Task costs £100 per task
Encourage the recognition of the nature conservation value by owners and land managers and seek to influence management practices.	Target all private owners with letter and leaflet by end 2003	Volunteer expenses £250
Secure favourable management practices for all privately owned NHS sites.	One per year from 2002	Advice £500
Provide advice to landowners and managers on grant aid and management techniques.	Ongoing	No cost
Monitor development proposals to protect the riparian strip and adjacent semi-natural habitats.	Ongoing	No cost
Monitor planning decisions to ensure Local Planning Authority compliance with PPG 9.	Ongoing	No cost

Parkland



Current Status



Description

Lowland Wood Pasture and Parkland are the products of historic land management systems, and represent a landscape rather than a particular plant community. Usually they consist of large, mature trees (often pollards) in grazed grassland, heathland and/or woodland floras.

The sites are frequently of national historic, cultural and landscape importance.

This plan includes ancient landscapes such as medieval forests and wood pastures as well as more modern parklands, especially where these contain older, original trees. It also includes individual veteran trees away from a parkland setting. Wood Pasture is a traditional landscape which is becoming increasingly rare. Many sites have been turned to arable use or been abandoned and developed as secondary woodland.

Around Barnsley there are a number of more modern formal parkland estates. Older sites are primarily native trees, but more modern landscaped parkland often contains many introduced species. A particularly important feature of these sites are old veteran trees.

National Status

There are no reliable statistics on the current extent of this type of habitat or on historical and current rates of loss or degradation. The current best available estimate is 10-20,000 ha currently in a working condition nationally. This habitat is most common in southern Britain, but scattered examples occur throughout the country. Duncombe Park is a nationally significant site in North Yorkshire.

Local Status

There is little survey information available for this type, but there are a number of former parkland estates at Cannon Hall, Banks Hall, Noblethorpe, Birthwaite, Falthwaite, Stainborough, Worsbrough, Tankersley, Wortley and Wharnccliffe.

Wharnccliffe Chase and Tankersley Park were created as deer parks in the 13th and 14th centuries. Wortley Park was established in the 16th century. Stainborough is the only Grade I listed parkland in the area.

Veteran trees are not well recorded but three examples of 'very old trees' are known from Rockley, Wortley and Tankersley.

Legal Status

National forestry policies include a presumption against the clearance of any broadleaved woodland for conversion to other land uses, and seek to maintain the ecological interest of ancient semi-natural woodland. Felling licences from the Forestry Authority are normally required but veteran trees may be particularly at risk because a licence is not needed to fell them on Health and Safety grounds. The DEFRA Environmental Impact Assessment (EIA) Regulations may apply.

Individual trees and groups are protected by Tree Preservation Orders (TPOs) at some parkland sites in Barnsley, whilst other sites are covered by Conservation Area designation. Individual trees may also have some protection if they contain bat roosts or hole nesting birds. There is recognition of the value of the habitat and individual old trees in various development plans, and landscape designations (eg by English Heritage). Only one site, Stainborough Park, is listed in the Natural Heritage Site (NHS) register.

Links with other Action Plans

SAP3	Great Crested Newt
SAP10	Tree Sparrow
FLS2	Pipistrelle Bat
FLS4	Barn Owl

Current Factors Causing Loss or Decline

- Lack of younger generations of trees is producing a skewed age structure, leading to breaks in continuity of dead wood habitat and loss of specialised dependent species.
- Neglect, and loss of expertise of traditional tree management techniques (eg pollarding) leading to trees collapsing or being felled for safety reasons.
- Loss of veteran trees through disease (eg Dutch Elm disease, Oak die-back), physiological stress, such as drought and storm damage, and competition for resources with surrounding younger trees.
- Removal of veteran trees and dead wood through perceptions of safety and tidiness where sites have high amenity use, forest hygiene, the supply of firewood or vandalism.
- Damage to trees and roots from soil compaction and erosion caused by trampling by livestock and people car parking.
- Changes to ground-water levels leading to water stress and tree death, resulting from abstraction, drainage, neighbouring development, roads, prolonged drought and climate change.
- Isolation and fragmentation of the remaining parklands and wood pasture sites in the landscape. (Many of the species dependent on old trees are unable to move between these sites due to poor powers of dispersal and the increasing distances they need to travel).

- Pasture loss through conversion to arable and other land-uses.
- Pasture improvement through re-seeding, deep ploughing, fertiliser and other chemical treatments, leading variously to tree root damage, loss of nectar-bearing plants, damage to soil and epiphytes.
- Inappropriate grazing levels: under-grazing leading to loss of habitat structure through bracken and scrub invasion; and over-grazing leading to bark browsing, soil compaction and loss of nectar plants.
- Pollution derived either remotely from industry and traffic, or locally from agro-chemical application and nitrogen enrichment from pasture over-stocking, causing damage to epiphyte communities and changes to soils.

Current Local Action

A survey of veteran trees has been carried out by the South Yorkshire Forest Project.

Particular survey and management work has been undertaken at Stainborough Castle, including restoration of grazing, protection and pruning of veteran trees, measures to encourage natural regeneration etc.

Proposed Local Action

ACTION

Monitor Woodland Grant Scheme to ensure that proposals affecting NHS sites are appropriate and do not include inappropriate species.

Research historical data to identify original areas of parkland which may have been lost or altered.

Continue restoration of parkland at Stainborough and ensure that wildlife is made a central priority.

Investigate potential for tree wardening scheme to help safeguard veteran trees.

Use the Stainborough project as an example to promote the potential for restoring parkland for wildlife.

Research techniques and success in distressing individual trees to mimic veteran tree features.

Survey the Barnsley area to identify individual veteran trees.

Encourage the recognition of the nature conservation value by owners and land managers and seek to influence management practices.

Identify ownership of important areas for nature conservation, particularly NHS sites.

TARGET

Ongoing

Complete research by end 2002

Ongoing

Develop scheme by 2002

Produce guidance notes based on practice at Stainborough by 2002

Complete research by 2002
Create one trial by 2003

Complete survey by 2003

Ongoing

Complete by 2004

COSTS

No cost

Volunteer expenses £100

No additional cost

Support cost £500
per year

Volunteer expenses £250

Volunteer expenses £100
Tree surgeon fees £500

Volunteer expenses £250

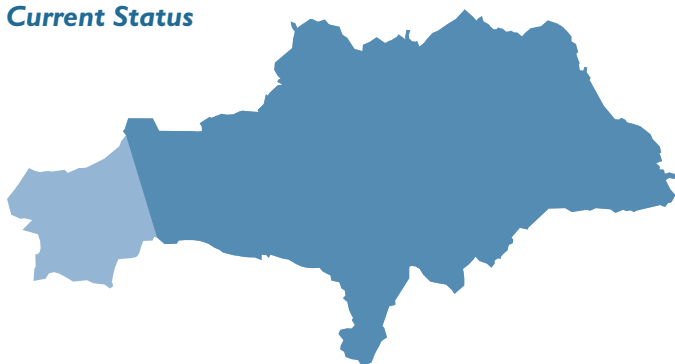
No cost

Volunteer expenses £100

Ancient and Species-Rich Hedgerows



Current Status



Description

Ancient Hedgerows are those which were in existence before the Enclosure Acts (1720 to 1840). Species-Rich Hedgerows in northern England contain four or more native woody species on average in a 30 m length. Hedges which contain a rich basal flora of herbaceous plants are also included. The thin straight Hawthorn hedges of the later Parliamentary Enclosures, and hedges of Beech, Privet, Yew or non-native trees, are excluded. Recently planted Species-Rich Hedges are included.

Hedges are important not just for biodiversity, but also for farming, landscape, cultural and archaeological reasons. Hedgerows are important habitats in their own right. They are a primary habitat for at least 47 extant species of conservation concern in the UK, including 13 globally-threatened or rapidly declining ones, more than for most other key habitats. They are especially important for butterflies and moths, farmland birds, bats and dormice.

Hedgerows are the most significant wildlife habitat over large stretches of lowland UK and are an essential refuge for a great many woodland and farmland plants and animals. Over 600 plant species, 1,500 insects, 65 birds and 20 mammals have been recorded at some time living or feeding in hedgerows. They also act as wildlife corridors for many species, including reptiles and amphibians, allowing movement between other habitats.

National Status

In 1993 it was estimated that about 329,000 km of hedgerow remained in England but with a continued overall net rate of loss due to removal and neglect of about 5% per annum. The proportion of this which is ancient and/or species-rich is estimated at 42%. Hedgerows adjacent to roads, green lanes, tracks and wooded ground tend to be particularly species-rich. Since 1945 there has been a drastic loss of hedgerows through removal and neglect throughout the UK, which continues even now. Between 1984 and 1990, the net loss of hedgerow length in England was estimated at 21%. Since 1990, loss through neglect has become increasingly important.

Local Status

Hedgerow neglect is a bigger problem in Barnsley than outright loss which, for agricultural purposes, has not been significant. The number of applications under the new Hedgerow Regulations is nine after three years. Loss of hedgerows to development is undoubtedly more significant although there are no precise records. A number of important hedgerows were listed in the 1980 Phase I Habitat Survey; 13 species-rich old lanes, six species-rich hedgerows and two hedgerow banks. These are widely distributed. Records exist for 21 hedgerows although only one – Black Lane, Tankersley – is listed in the Natural Heritage Site (NHS) register.

Legal Status

The Hedgerow Regulations 1997 introduced powers to protect important hedgerows in Britain. Landowners and managers are required to consult Local Authorities before hedgerows can be removed. Article 10 of the EC Habitats Directive requires member states to encourage the management of hedges (and other linear features) in their land use planning and development policies and, in particular, with a view to improving ecological coherence of the Natura 2000 network. The Conservation (Natural Habitats, etc) Regulations, 1994 recognise that such linear features are essential for the migration, dispersal and genetic exchange of wild species. Planning Policy Guidance Note (PPG 9 - Nature Conservation, 1994) further encourages the development of policies for the management of hedgerows.

Links with other Action Plans

SAPI	Brown Hare	SAPI3	Corn Bunting
SAP3	Great Crested Newt	FLS2	Pipistrelle Bat
SAP6	Grey Partridge	FLS4	Barn Owl
SAP9	Song Thrush	FLS5	Bluebell
SAPI0	Tree Sparrow	FLS6	Glow Worm
SAPI2	Linnet		

Current Factors Causing Loss or Decline

- Neglect (no cutting or laying) leading to hedgerows changing into lines of trees and the development of gaps. This reflects modern high labour costs and loss of traditional skills.
- Too frequent and badly timed cutting leading to poor habitat conditions, development of gaps and probable species changes.
- Loss of hedgerow trees through senescence and felling, without encouraging replacements.
- Use of herbicides, pesticides and fertilisers right up to the bases of hedgerows, leading to nutrient enrichment and a decline in species diversity.
- Increased stocking rates, particularly of sheep, leading to hedgerow damage and the need to fence fields. The presence of fences

reduces the agricultural necessity for hedge maintenance and so hastens their decline. The modern practice of 'ranching' (placing netting around several fields to form a grazing block) also contributes to the deterioration of internal hedges.

- Removal for agricultural and development purposes.

Current Local Action

Advocacy on good hedgerow management eg by FWAG; advocacy and support for same via agri-environmental grant awarding agencies eg DEFRA.

Administration by Barnsley MBC of Hedgerow Regulations.

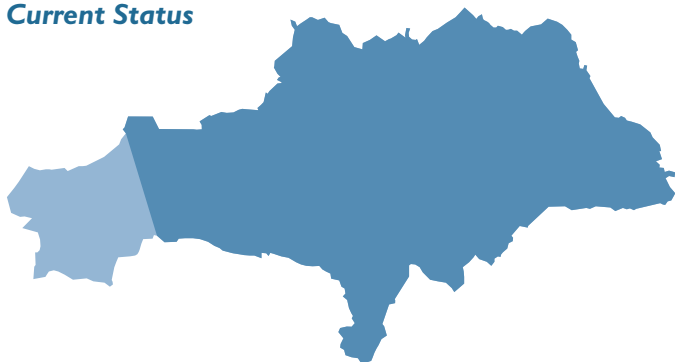
Proposed Local Action

ACTION	TARGET	COSTS
Monitor Forestry Commission felling licence applications to reduce hedgerow tree loss and encourage the planting of replacements.	Ongoing	No cost
Develop a protocol with Local Planning Authority to ensure that important hedgerows are not lost to development.	Protocol by 2002	No cost
Establish a register of important hedgerows/hedgerow trees.	Complete by 2002	Survey expenses £1,000
Local Authority to consider application of TPOs to important hedgerow trees.	Implement by 2002	No cost
Identify ownership of important areas for nature conservation, particularly NHS sites.	Complete 2002	Volunteer expenses £100
Provide advice to landowners and managers on grant-aid and management techniques.	Contact all owners by 2002	No cost
Investigate potential for tree wardening scheme to help safeguard veteran trees.	Develop scheme by 2002	Support cost £500 per year
Secure favourable management practices for all publicly owned important hedgerows.	25% of sites by 2002 All sites by 2005	Hedge laying £1,000 per year
Secure favourable management practices for privately owned important hedgerows.	One per year from 2003	Advice £500
Develop management plans for all publicly owned important hedgerows.	Complete by 2003	Fees £2,000 per site
Survey the Barnsley area to identify individual veteran trees.	Complete survey by 2003	Volunteer expenses £250
Support practical efforts to plant new hedgerow trees.	Support small grants scheme	£500 per annum
Support FWAG to promote conservation headlands and set-aside strips to protect hedgerows from fertilisers and pesticides.	Ongoing	No cost
Promote public awareness of the importance of hedgerows for wildlife.	Ongoing	No cost
Ensure that local planning policies take account of the wildlife interest of important hedgerows.	Ongoing	No cost
Monitor planning decisions to ensure Local Planning Authority compliance with PPG 9.	Ongoing	No cost

Cereal Field Margins



Current Status



Description

‘Cereal Field Margin’ is a general term referring to strips of land lying between cereal crops and the field boundary, and extending for a limited distance into the crop, which are deliberately managed to benefit key farmland species.

Cereal Field Margins are important for the provision of nesting and feeding sites for game birds and some passerines, many species of butterflies, grasshoppers, and plant bugs. Some 2,000 species of invertebrate are commonly found in cereal fields. Hedgebanks support invertebrates of economic, ecological and aesthetic value. Even more dependent on cereal field margins are the rare arable flowers. Arable wildflowers are of conservation concern because of enormous national declines in their distribution and abundance. Overall, some 300 species of plants can occur in arable fields.

National Status

Cereals account for 63% of the total area of arable land in England. The margins of cereal fields can be managed in ways which benefit wildlife, without having serious detrimental effects on the remaining cropped area. Estimating average national field size to be 12 ha suggests that there are about 400,000 km of cereal field edge in the UK. If all such boundaries included a 6 m managed margin, some 200,000 ha of land would be brought into sensitive management.

Local Status

There is no information available on the amount of take-up in this area, although a number of farmers do include headland strips for wildlife as a result of DEFRA initiatives, farm plans etc.

Legal Status

Under the Food and Environment Protection Act, 1985 it is illegal to spray pesticides into hedge bases, unless there is a specific label recommendation or a specific off-label approval.

Under the current procedures for pesticide registration and review, some compounds have statutory label exemptions preventing their use on the outermost 6 m wide strips of crops. These restrictions are designed to prevent overspraying of water courses and protect non-cropped habitats.

Links with other Action Plans

SAP1	Brown Hare
SAP6	Grey Partridge
SAP10	Tree Sparrow
SAP12	Linnet
SAP13	Corn Bunting
FLS4	Barn Owl

Current Factors Causing Loss or Decline

- Intensification of cereal production, including the use of herbicides to ensure a weed-free monoculture, and summer use of insecticides.
- 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.

- The geographical retreat of cereal growing from many northern and western areas means that this habitat no longer occurs in large parts of the UK.
- Grassy field margins are retained by some farmers to act as buffers to cereal fields but management is usually minimal.

Current Local Action

A number of farmers include headland strips for wildlife as a result of DEFRA and FWAG initiatives, farm plans etc.

Proposed Local Action

ACTION	TARGET	COSTS
Review with DEFRA the extent of cereal field margin management in the Barnsley area.	Complete review by end 2003	Volunteer expenses £500
Promote the importance of conservation margins by setting up examples of good practice with sympathetic farmers.	2-4 farms per year	£150 per farm
Promote uptake of national schemes through DEFRA and FWAG.	Ongoing	No cost
Monitor national research and implement locally where appropriate.	Ongoing	No cost

NOTE

The Countryside Stewardship Scheme administered by DEFRA includes financial incentives for the management of Cereal Field Margins and Conservation Headlands.

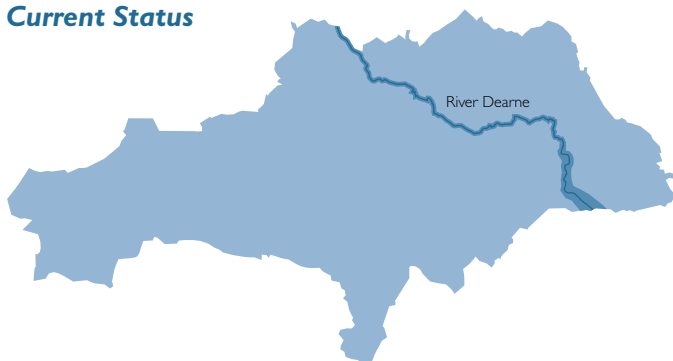
Cereal Field Margins are a minimum 6 metre arable margin adjacent to a cereal (or other arable) crop which is created from natural regeneration and managed by annual mowing after mid-July. Some areas may be left uncut to provide tussock cover. The sward must be maintained without the use of pesticides and/or herbicides.

A Conservation Headland can be 6-24 metres wide along the edge of a cereal crop. This strip must have no insecticides applied between mid-March and harvest. A Conservation Headland enables beneficial insects to colonise the crop and provides a protective barrier to adjacent non-crop habitats. There is an additional incentive for management without the use of fertilisers.

Floodplain Grazing Marsh



Current Status



Description

These wet grasslands are periodically inundated pastures or meadows in river floodplain areas, usually criss-crossed by ditches that maintain a high water level. Most sites also have an important role in flood defence.

The combination of grasslands and wetland margins or ditches promotes a richness of plants and invertebrates. They are generally grazed or cut for hay or silage.

Grazing marshes are particularly important for the number of breeding waders such as Snipe *Gallinago gallinago*, Lapwing *Vanellus vanellus* and Curlew *Numenius arquata* they support. Internationally important populations of wintering wildfowl also occur, including Bewick Swans *Cygnus bewickii*, Whooper Swans *Cygnus cygnus* and Wigeon *Anas penelope*.

National Status

The exact extent of grazing marsh in England was estimated in 1994 at 200,000 ha. However, only a small proportion (5,000 ha) of this grassland is semi-natural supporting a high diversity of native plant species.

Losses in the whole of the UK have been significant in the last 60 years. Some of the last remaining unimproved grasslands are highly sensitive to increased nutrient loadings. Unless conservation measures to retain this habitat type are in place, with particular emphasis on the maintenance of water levels, flooding regimes and appropriate grazing or cutting, most sites will deteriorate.

Local Status

There are a number of important sites of this type, all found in the Dearne Valley, 13 in all. Many of them have some sort of protection as nature reserves and many are owned by the Environment Agency and managed for flood storage; some of these have been converted to arable and none are managed to their full potential. Of this total six are listed as Natural Heritage Sites (NHS) – Wilthorpe Marsh, Carlton Marsh, Edderthorpe Ings, Broomhill Flash, Wombwell Ings and Wath Ings.

Legal Status

Sites included in the Unitary Development Plan (UDP) as NHS sites have a presumption against development but have no protection against operations which do not require planning consent. Carlton Marsh has been declared a Local Nature Reserve (LNR) and has a measure of statutory protection.

Many of the sites fall within statutory washland designation and are owned by the Environment Agency.

In carrying out their functions the Environment Agency, Water Companies, Internal Drainage Boards and Local Authorities in England and Wales have a statutory duty to further conservation where consistent with purposes of enactments relating to their functions. These are set out in the Water Resources Act, 1991, and the Land Drainage Act, 1991. The DEFRA Environmental Impact Assessment (EIA) Regulations may apply.

Links with other Action Plans

HAP8	Lowland Meadows
FLS3	Lapwing
FLS4	Barn Owl
SAP7	Little Ringed Plover
SAP8	Skylark
SAP2	Water Vole

Current Factors Causing Loss or Decline

- Ecologically insensitive flood defence works constructed in the past.
- Agricultural improvements, including land drainage, use of herbicides and fertiliser.
- Neglect in the form of a decline in traditional management ie cutting and grazing.
- Enrichment caused by overstocking with animals and supplementary feeding.
- Loss of sites to development and highway improvement.
- Ground water abstraction causing site to dry out.
- Pollution of ground water or surface water.
- Mineral extraction causing loss of sites and alteration to ground water levels.

Current Local Action

- Five of the sites are currently managed as nature reserves – Carlton Marsh, Park Hill Brickworks, Doveside, Wombwell Ings and Wath Ings – although ideal management practices are not in place on any of these.
- Edderthorpe Ings is partially secure but suffering from split ownership. Wilthorpe Marsh has deteriorated seriously and has been threatened with opencast coal working.
- Old Moor Wetland Centre includes new and modified areas of this type.
- A report has been produced by the Environment Agency examining the feasibility of restoring the nature conservation value to washland areas in the Dearne Valley.
- One site, Broomhill Flash, has been marketed by the owners and attempts to secure its future as a nature reserve are not certain.
- FRCA/DEFRA have identified the area around Wombwell Ings as the key area of likely habitat. This is, perhaps, the most important site in Barnsley.

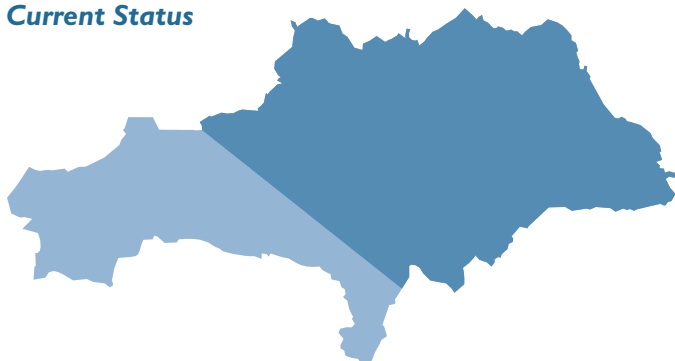
Proposed Local Action

ACTION	TARGET	COSTS
Survey NHS sites to assess current management practices and identify priorities for improvement.	Survey by mid-2002 Strategy by end 2002	Volunteer expenses £100 per site
Develop a protocol with Local Planning Authority to ensure that NHS sites are not lost to development, highway schemes etc.	2002	No cost
Ensure that all publicly owned NHS sites are recognised for their primary nature conservation value.	2002	No cost
Encourage the recognition of nature conservation value by private owners of NHS sites and seek to influence management practices.	Target all private owners with letter and information sheet by end 2002	Volunteer expenses for information sheet £250
Review the Environment Agency report on the feasibility of restoring areas of washland to nature conservation use. Prepare outline strategy.	Prepare outline strategy by end 2002	No cost
Secure favourable management practices for all publicly owned NHS sites.	Two per year from 2002 Seek stewardship for funding	Fencing £2,000/ha Grass cutting £500/ha Water level controls £500
Secure favourable management practices for all privately owned NHS sites.	One per year from 2002	As above
Develop management plans for all publicly owned NHS sites.	One per year 2002-2005	Fees £2,000 per site
Agree suitable water level management plans with the Environment Agency.	Include in Management Plan production	No cost Included in above
Create new areas of grazing marsh on suitable sites in the Dearne Valley.	10 ha by 2005 20 ha by 2010	Cultivation and seeding £4,000/ha Water level controls £500
Avoid the reseedling of dredged materials where these are unavoidably deposited on grazing marsh areas.	Ongoing	No cost
Monitor planning decisions to ensure Local Planning Authority compliance with PPG 9.	Ongoing	No cost
Monitor to ensure flood defence works are undertaken in an ecologically sensitive manner.	Ongoing	No cost

Lowland Meadows



Current Status



Description

Lowland Meadows are taken to include most forms of unimproved neutral grassland in lowland areas. The plan is not restricted to grasslands cut for hay, but also takes into account unimproved neutral pastures where livestock grazing is the main land use. On many farms in different parts of the UK, 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 and a variety of other localities.

National Status

It is estimated that between 1930 and 1984 in lowland England and Wales, semi-natural grassland had declined by 97% to an estimated 200,000 ha.

Losses have continued during the 1980s and 1990s, and have been recorded at 2-10% per annum in some parts of England, due almost totally to changing agricultural management. Recent estimates suggest that only 5,000-10,000 ha of *Cynosurus-Centaurea* grasslands remain in England and Wales.

Unimproved seasonally-flooded grasslands are even rarer. *Alopecurus-Sanguisorba* flood meadows cover less than 1,500 ha in scattered sites in the River Ouse catchment. *Cynosaurus-Caltha* flood pasture probably covers less than 1,000 ha in England and Wales.

Local Status

Some 76 sites of neutral grassland are listed in the area of which only one – Pye Flatts at Silkstone – is notified as an SSSI and only four others are listed in the Natural Heritage Site (NHS) register.

Legal Status

One site, Pye Flatts at Silkstone, has been notified as an SSSI and therefore has statutory protection.

Sites included in the Unitary Development Plan (UDP) as NHS sites have a presumption against development but have no protection against operations which do not require planning consent.

Unimproved neutral grasslands are also included in a variety of recent UK agri-environment schemes including ESAs and the Countryside Stewardship Scheme.

The DEFRA Environmental Impact Assessment (EIA) Regulations may apply.

Links with other Action Plans

FLS3	Lapwing
FLS4	Barn Owl
FLS6	Glow Worm
HAP7	Floodplain Grazing Marsh
SAP6	Grey Partridge
SAP8	Skylark
SAP12	Linnets

Current Factors Causing Loss or Decline

- Agricultural improvement through drainage, ploughing, re-seeding, fertiliser treatment, slurry application, conversion to arable and a shift from hay-making to silage production.
- Decline in the perceived agricultural value of species-rich pasture and hay in farming regimes.
- Abandonment leading to rank over-growth, and bracken *Pteridium aquilinum* and scrub encroachment.
- Supplementary stock feeding, associated with increased stocking levels, which can lead to eutrophication as well as localised poaching.
- Application of herbicides and other pesticides.
- Atmospheric pollution and climate change, the influence of which is not fully assessed.

- Reduced inundation frequency and duration, in water-meadows and floodplain grasslands associated with abandoned irrigation schemes and lowered water tables, as a result of land drainage, flood alleviation engineering, surface and ground water abstraction, floodplain gravel extraction and other activities.
- Floristic impoverishment due to heavy grazing pressure and changes in stock species and breeds.

Current Local Action

Pye Flatts Meadow SSSI has a favourable management regime.

Harvested seed from this site has been used to create a new meadow at Old Moor Wetland Centre.

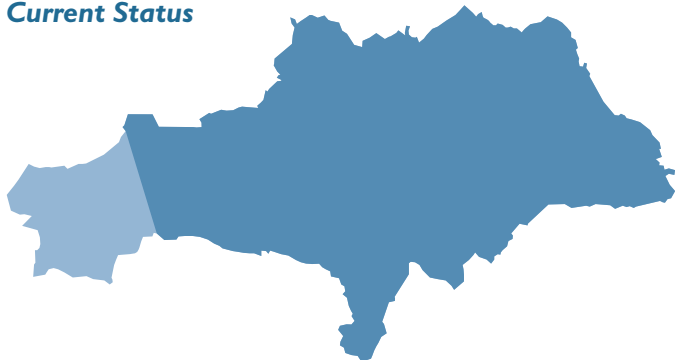
Proposed Local Action

ACTION	TARGET	COSTS
Review the Environment Agency report on the feasibility of restoring areas of washland to nature conservation use. Prepare outline strategy.	2002	No cost
Develop a protocol with Local Planning Authority to ensure that NHS sites are not lost to development, highway schemes etc.	2002	No cost
Ensure that all publicly owned NHS sites are recognised for their primary nature conservation value.	2002	No cost
Survey NHS sites to assess current management practices and identify priorities for improvement.	Survey by mid-2002 Strategy by end 2002	Volunteer expenses £100 per site
Encourage the recognition of nature conservation value by private owners of NHS sites and seek to influence management practices.	Target all private owners with letter and information sheet by end 2002	Volunteer expenses for information sheet £250
Survey all known sites to assess condition and current management practices and potential for improvement and/or expansion and prepare strategy for action.	Survey mid-2004 Strategy end 2004	Fees/Ecologist £2,500
Secure favourable management practices for all publicly owned NHS sites.	One per year from 2002 Seek stewardship for funding	Fencing £2,000/ha Grass cutting £500/ha
Secure favourable management practice for all privately owned NHS sites.	One per year as above	As above
Develop management plans for all publicly owned NHS sites.	One per year	Fees/Ecologist £2,000 per site
Restore grassland identified as being just below NHS standard by improved management practices.	5 ha by 2005/10 ha by 2010	Fees/Ecologist £500 per site
Restore degraded grassland by improved management practices and over-seeding.	5 ha by 2005/10 ha by 2010	Cultivation and over-seeding £2,000/ha Stock fencing £2,000/ha
Create new areas of neutral meadow on suitable sites.	5 ha by 2005/10 ha by 2010	Cultivation and re-seeding £4,000/ha Stock fencing £2,000/ha
Monitor planning decisions to ensure Local Planning Authority compliance with PPG 9.	Ongoing	No cost

Lowland Dry Acidic Grassland



Current Status



Description

Lowland Dry Acidic Grassland typically occurs on nutrient-poor, generally free-draining soils with pH ranging from 4 to 5.5 and overlying acid rock or superficial deposits such as sands and gravels. The general definition of this type of grassland is that it occurs below 300 m and can be enclosed or unenclosed managed land, including parkland, and fringing or early-stage heathland. The habitat is characterised by a range of plants such as Heath Bedstraw, Sheep's Sorrel, Tormential, Harebell, Sheep's Fescue and Common Bent. Many invertebrates that occur in acid grasslands are specialist species and are not found in other types of grassland.

National Status

As with other lowland semi-natural grassland types, acid grassland has undergone substantial decline in the 20th century, due mainly to agricultural intensification.

It is because of the associated plants and invertebrates that this habitat is nationally important in the modern landscape.

Local Status

Data exists from the original 1980 Phase I Habitat Survey, which included 27 named sites, and from this baseline information, another survey was conducted in 1992. This highlighted four main sites – Mag Wood Meadow, Hood Green Meadow, Wilthorpe Marsh and Carlton Marsh, which were then awarded the local Natural Heritage Site (NHS) classification.

Many small sites such as field corners and banking occur throughout the Borough as remnants of this habitat.

Legal Status

Sites included in the Unitary Development Plan (UDP) as NHS sites have a presumption against development but have no protection against operations which do not require planning consent.

Several plant and invertebrate species of lowland grassland are protected under the Schedules of the Wildlife and Countryside Act, 1981.

The DEFRA Environmental Impact Assessment (EIA) Regulations may apply.

Links with other Action Plans

FLS4	Barn Owl
SAP1	Brown Hare
SAP6	Grey Partridge
SAP8	Skylark

Current Factors Causing Loss or Decline

- Agricultural intensification by re-seeding, ploughing for arable crops, use of fertilisers and herbicides.
- General land management neglect allowing rank overgrowth, bracken and scrub encroachment.
- Over-grazing in some local areas.
- Afforestation with mainly conifer causing further habitat loss.

Current Local Action

- Phase I Habitat Survey in 1980 and the 1992 survey, resulting in the NHS designation of the four above-named sites. There will be other small remnants of this habitat classification that local people are aware of but have not been recorded. These small remnants, although isolated, are still important in the wildlife they retain.
- Currently none of the four main sites are managed effectively.

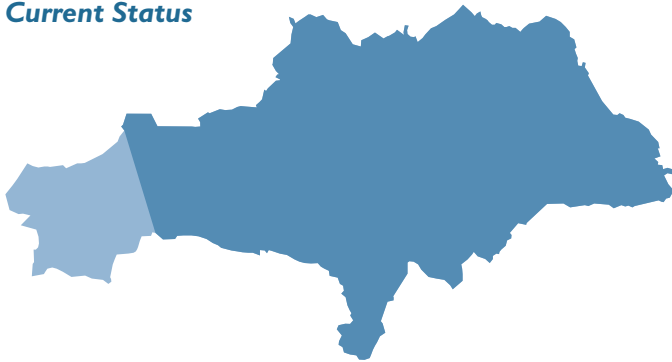
Proposed Local Action

ACTION	TARGET	COSTS
Develop a protocol with Local Planning Authority to ensure that NHS sites are not lost to development, highway schemes etc.	2002	No cost
Survey NHS sites to assess current management deficiencies and identify priority for action.	Complete survey by mid-2003 Strategy by end 2003	Volunteer expenses £100 per site
Survey all known sites to assess condition and current management practices and potential for improvement/expansion and prepare strategy with priorities for action.	Complete survey by mid-2004 Strategy by end 2004	Volunteer expenses £100 per site
Develop management plans for all publicly owned NHS sites.	Complete by 2004	Fees/Ecologist £2,000 per site
Secure favourable management practices for all privately owned NHS sites.	All NHS sites by 2005	Fencing £2000/ha Grass cutting £500/ha
Identify ownership of important areas for nature conservation, particularly NHS sites.	Complete by 2004	Volunteer expenses £100
Develop management plans for all privately owned sites.	Four best NHS sites by 2004	Advice £500
Restore meadows identified as being just below NHS standard by improved management practices.	Target areas at Whitley Edge by 2005	Advice £500
Restore degraded meadows by improved management and over-seeding.	Target areas at Whitley Edge by 2005	Cultivation and reseedling £2,000/ha Stock fencing £2,000/ha
Where possible seek funding to purchase key sites where appropriate.	2005-2010	£2,000/acre + fees
Monitor development schemes to ensure that natural habitats are not lost without adequate provision for replacement/enhancement.	Ongoing	No cost
Monitor development schemes on land adjacent to known sites of wildlife interest to prevent damage and to seek opportunities for improvement.	Ongoing	No cost
Encourage the recognition of nature conservation value by private owners of NHS sites and seek to influence management practices.	Ongoing	No cost
Monitor planning decisions to ensure Local Planning Authority compliance with PPG 9.	Ongoing	No cost

Lowland Heathland



Current Status



Description

Lowland Heathland is generally found below 300 m on poor nutrient, acid soil with a pH of 4 to 5.5. The habitat is characterised by ericaceous plants such as Heather and Bell Heather with scattered trees and shrubs of mainly Silver Birch, Oak and Gorse. Parts of the habitat may retain damp areas and small pools that are important for various associated plants such as Cottongrass and also for Dragonflies.

National Status

This is an internationally rare and threatened habitat with the UK holding 20% of the world's total. There has been a 75% decline of Lowland Heathland cover in Britain since 1800. Various sites in this country hold some very rare species of plants and invertebrates.

Local Status

Records exist in Barnsley of some 19 examples, some of which are quite small and isolated and may not be original, but rather recent heather colonisation. The historical and most species-rich site in Barnsley in Gypsy Marsh near Broomhill, which is owned by Barnsley MBC and designated as a Local Nature Reserve.

Legal Status

Sites included in the Unitary Development Plan (UDP) as Natural Heritage Sites (NHS) have a presumption against development, but have no protection against operations which do not require planning consent.

The DEFRA Environmental Impact Assessment (EIA) Regulations may apply.

Links with other Action Plans

SAPI Brown Hare

SAPI2 Linnet

Current Factors Causing Loss or Decline

- In the past Lowland Heathland was lost to agriculture, forestry, mineral extraction and development.
- Uncontrolled burning in some areas has caused habitat destruction and allowed other species to encroach.
- Nutrient enrichment from surrounding land has had an effect on bordering vegetation.
- Possible threat from the Heather Beetle (lowland sites are particularly vulnerable).

Current Local Action

- Gypsy Marsh is owned by Barnsley MBC and managed as a Local Nature Reserve.
- Recording on site by Barnsley Naturalist Society, Barnsley Bird Study Group and other interested individuals.
- Other sites may be recorded by the same groups and individuals.

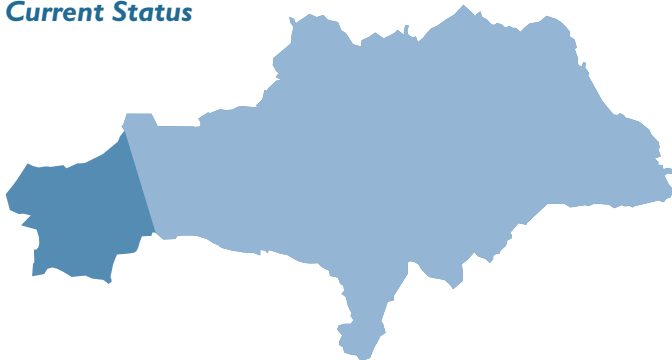
Proposed Local Action

ACTION	TARGET	COSTS
Develop a protocol with Local Planning Authority to ensure that NHS sites are not lost to development, highway schemes etc.	2002	No cost
Develop a strategy for the creation and management of Lowland Heathland on land adjacent to West Haigh Wood.	Complete strategy 2002	£500
Survey NHS sites to assess current management deficiencies and identify priorities for action.	Complete survey by mid-2003 Strategy by end 2003	Volunteer expenses £100 per site
Survey all known sites to assess condition and current management practices and potential for improvement/expansion and prepare strategy with priorities for action.	Survey by mid-2004 Strategy by end 2004	Volunteer expenses £100 per site
Develop management plans for all publicly owned NHS sites.	2004	Fees/Ecologist £2,000 per site
Restore Gypsy Marsh to favourable management.	Complete by 2005	£10,000
Identify target areas for habitat enhancement, particularly the creation of Lowland Heathland on old colliery sites.	2002-2010	Volunteer expenses £250
Monitor development schemes to ensure that natural habitats are not lost without adequate provision for replacement/enhancement.	Ongoing	No cost

Upland Heathland



Current Status



Description

Upland Heathlands are generally found above 300 m and beyond the field enclosures where rainfall is in excess of 1,000 mm per year. They are areas with underlying peat, formed many thousands of years ago, dominated by shrub plants such as Heather, Bell Heather, Bilberry, Crowberry and Cottongrass in the shallow peat pools.

Due to altitude and diverse weather conditions, unique communities of flora and fauna are found in the habitat. Upland Heathlands are home, for whole or part of the year, to Mountain Hare, Red Grouse, Merlin, Golden Plover, Curlew, Dunlin, Ring Ouzel, Twite, Green Hairstreak Butterfly, Emperor Moth and Viviparous Lizard (*Lacerta vivipara*).

National Status

Dwarf shrub heaths are derived from upland woodlands and are almost entirely confined to the western seaboard of Europe. The UK holds a high percentage of the world total and therefore is responsible for retaining this unique habitat.

Most of the habitat lies within National Park boundaries in England and Wales.

Local Status

Most of the Upland Heathland is within the Peak District National Park in Barnsley, but there are a total of 14 sites identified.

It is an important and distinct habitat within the Borough existing as remnants of very old landscapes containing good assemblages of species.

Legal Status

The area within the Peak District National Park is designated as a Site of Special Scientific Interest (SSSI). This area is controlled by the Peak District National Park Authority as Planning Authority.

Some of the area within the Peak District National Park is classified as an Environmentally Sensitive Area (ESA).

Sites in the Unitary Development Plan (UDP) as Natural Heritage Sites (NHS) have a presumption against development but have no protection against operations which do not require planning consent.

The DEFRA Environmental Impact Assessment (EIA) Regulations may apply.

Links with other Action Plans

SAP11 Twite

Current Factors Causing Loss or Decline

- Inappropriate management, such as overgrazing, due to large stocks of sheep on the moor as a result of EU agricultural policy.
- Incorrect heather burning may affect the character of the habitat and its wildlife.
- Bracken invasion in some areas.
- Afforestation can change the whole ecology of a moor.
- Climate change and its effects, such as infestation of Heather Beetle due to mild winters and wet springs.

Current Local Action

- Ornithological survey of Langsett and Ladycross Moor commissioned by Peak District National Park Authority and offering appropriate management ideals.
- Survey of some areas by Barnsley Naturalists' Society, Barnsley Bird Study Group and other interested individuals.

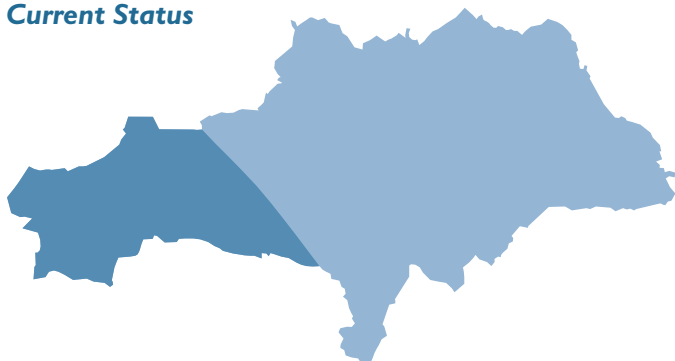
Proposed Local Action

ACTION	TARGET	COSTS
Survey for target species.	Complete Twite survey by 2002	£200 per year
Identify ownership of important areas for nature conservation.	Complete by 2002	Volunteer expenses £100
Survey to identify areas of good management practice which still retain diverse wildlife populations.	Complete by 2002	Volunteer expenses £250
Encourage the recognition of the nature conservation value by owners and land managers and seek to influence management practices.	Target all private owners with letter and leaflet by 2003	Volunteer expenses £250
Monitor development schemes to ensure that valuable natural habitats are not lost without adequate provision for replacement/enhancement and potential for creation of new habitats.	Ongoing	No cost
Monitor Woodland Grant Scheme to ensure that important areas of natural habitat are not lost to afforestation.	Ongoing	No cost
Continue wildlife recording.	Ongoing	No cost

Rush Pasture



Current Status



Description

Rush Pastures occur on poorly drained, usually acidic soils in areas of high rainfall in Western Europe. They are found typically on undulating plateaux and hillsides, as well as in stream and river valleys.

Vegetation is often a mosaic and also perhaps bordering other habitats.

Typical vegetation types are dominated by various rush species, some sedge species, Marsh Thistle, Meadow Buttercup, Spearwort and occasionally Sphagnum and other mosses. Being wet, and with some cover, they are important for upland water species.

National Status

The UK has around 56,000 ha of these pastures, probably more than in the rest of Europe with the exception of Eire. England has about 5,400 ha mainly in the south west of the country such as the Somerset Levels, but there are important areas within Yorkshire.

Local Status

The areas within Barnsley are possibly not classified as pure Rush Pastures, but are fragmented remnants and often a hybrid of other related habitats.

However, this may make this habitat even more important for conserving in the area, especially due to key associated species such as Brown Hare, Curlew, Snipe, Lapwing and Skylark.

Pockets of this habitat occur in Barnsley across the broad swathe of land between Ingbirchworth, Crow Edge and Langsett.

Legal Status

Parts of this habitat may fall within the Environmentally Sensitive Area (ESA). Sites included in the Unitary Development Plan (UDP) as Natural Heritage Sites (NHS) have a presumption against development but have no protection against operations which do not require planning consent.

The DEFRA Environmental Impact Assessment (EIA) Regulations may apply.

Links with other Action Plans

FLS3	Lapwing
SAP1	Brown Hare
SAP8	Skylark
SAP11	Twite

Current Factors Causing Loss or Decline

- The habitat is threatened by agricultural improvements such as drainage, re-seeding and nutrient enrichment.
- Inappropriate management such as overgrazing, compaction due to overstocking and heavy implement use and, through overgrazing, allowing other plant species and scrub development to take over.
- Afforestation and mineral working have destroyed some habitats.

Current Local Action

A restoration plan on Hepworths' land at Crow Edge is being progressed which will reinstate the area of Western Gorse on the high ground, which was destroyed for agricultural gain, and reverse the drainage improvements to produce Rush Pastures.

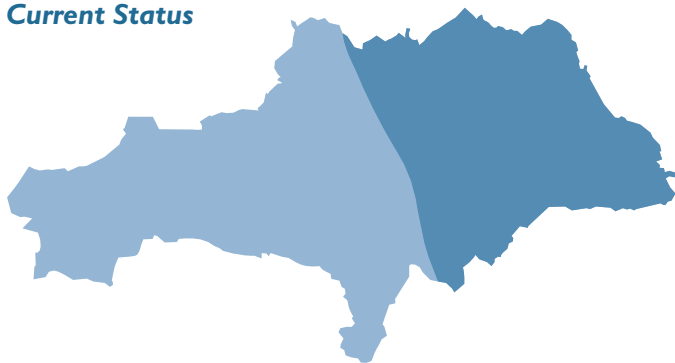
Proposed Local Action

ACTION	TARGET	COSTS
Monitor Woodland Grant Scheme to ensure that important areas of natural habitat are not lost to afforestation.	Ongoing	No cost
Develop a protocol with Local Planning Authority to ensure that NHS sites are not lost to development, highway schemes etc.	2002	No cost
Survey NHS sites to assess current management deficiencies and identify priorities for action.	Complete survey by mid-2003 Strategy by end 2003	Volunteer expenses £100 per site
Survey all known sites to assess condition and current management practices and potential for improvement/expansion and prepare strategy with priorities for action.	Complete survey by mid-2004 Strategy by end 2004	Volunteer expenses £100 per site
Encourage the recognition of the nature conservation value by owners and land managers and seek to influence management practices.	Target all private owners by letter and leaflet by 2004	Volunteer expenses £250
Restore Rush Pasture identified as being just below NHS standard by improved management practices.	Target areas at Whitley Edge by 2005	Advice £500
Restore degraded Rush Pasture by improved management manipulation of land drainage arrangements and over-seeding.	2003-2010	£2,000 per year
Secure favourable management practices for all privately owned NHS sites.	One per year from 2004	Advice £500
Monitor recreational schemes to ensure that important natural habitats are not damaged or fragmented.	Ongoing	No cost
Monitor development schemes to ensure that natural habitats are not lost without adequate provision for replacement/enhancement.	Ongoing	No cost
Seek to work in partnership with other interested bodies.	Target RSPB	No cost

Reedbeds



Current Status



Description

Reedbeds are wetlands dominated by stands of the common reed *Phragmites australis*, wherein the water table is at or above ground level for most of the year. They tend to incorporate areas of open water and ditches, small areas of wet grassland and carr woodland may be associated with them.

Reedbeds are amongst the most important habitats for birds in the UK. They support a distinctive breeding bird assemblage including nationally rare Red Data Birds, Bittern *Botaurus stellaris*, Marsh Harrier *Circus aeruginosus*, Bearded Tit *Panurus biaricus* and Reed Bunting *Emberiza schoeniclus*. They provide roosting sites for Corn Bunting *Miliaria calandra*, feeding sites for migratory species Swallow *Hirundo rustica* and are used as roost sites for several raptor species in winter. Reedbeds are also important areas for Otter *Lutra lutra*. Five Great Britain Red Data Book invertebrates are also closely associated with Reedbeds including the locally-rare Fen Wainscot Moth *Arenostola phragmitidis*.

National Status

There are about 5,000 ha of Reedbeds in the UK, but of the 900 or so sites contributing to this total only about 50 are greater than 20 ha and these make a large contribution to the total.

Local Status

There are a number of small Reedbeds, either in river valley situations or which have developed in former colliery lagoons. Fairly substantial examples (less than 1 ha) of the latter can be found at Grimethorpe and Rabbit Ings and Royston Canal. The largest Reedbed in the area is at Worsbrough Reservoir at about 2 ha in extent. Small Reedbeds have been established at Carlton Marsh Nature Reserve and Wath Ings but the largest is at Old Moor Wetland Centre. 12 hectares of reedbed have been established at Old Moor and this site may be further extended in the future.

Legal Status

Most of the more significant Reedbeds nationally are notified as SSSI/ASSI and many are notified as Wetlands of International Importance under the Ramsar Convention and as SPAs under the EC Birds Directive. Several of the larger Reedbeds are managed as NNRs by English Nature and as reserves of the RSPB and County Wildlife Trusts.

The DEFRA Environmental Impact Assessment (EIA) Regulations may apply.

Links with other Action Plans

HAP3	Wet Woodland
HAP14	Ponds and Canals
HAP16	Standing Water
FLS1	Otter
SAP2	Water Vole
SAP5	Bittern
SAP13	Corn Bunting

Current Factors Causing Loss or Decline

- Small total area of habitat and, critically, small population sizes of several key species dependent on the habitat.
- Loss of area by excessive water extraction and conversion to intensive agriculture.
- Lack of, or inappropriate, management of existing Reedbeds leading to drying, scrub encroachment and succession to woodland.
- Pollution of freshwater supplies to the Reedbed: siltation may lead to drying; toxic chemicals may lead to loss of fish and amphibian prey for key species; accumulation of poisons in the food chain and eutrophication may cause reed death.

Current Local Action

- The scheme at Old Moor Wetland Centre includes 12 ha of Reedbeds. Engineering works are complete and reeds established

- in some areas. Additional works are required to improve water flow control and additional planting of 0.5 ha is being considered at Wath Ings which will require scheme design and costings.
- Other sites, owned by Barnsley MBC, are Park Hill Brickworks which has a small Reedbed and has an outline scheme for the creation of a large Reedbed of about 5-8 ha. The largest established Reedbed at Worsbrough Reservoir, at about 2 ha, is being investigated for improvement.
- The status of the large Reedbed at Rabbit Ings, Royston is uncertain with reclamation plans proposed for the derelict colliery site.
- A report has been produced by the Environment Agency examining the feasibility of restoring the nature conservation value to washlands in the Dearne Valley.

Proposed Local Action

ACTION

TARGET

COSTS

Ensure that all publicly owned NHS sites are recognised for their primary nature conservation value.

2002

No cost

Encourage the recognition of nature conservation value by private owners of NHS sites and seek to influence management practices.

Target all private owners with letter and information leaflet by end 2002

Volunteer expenses for information sheet £250

Develop a protocol with the Local Planning Authority to ensure that Reedbed sites are not lost to development.

2002

No cost

Survey all known sites to assess condition, current management practices and potential for improvement.

Survey 2002
Strategy 2002

Volunteer expenses
£100 per site

Review the Environment Agency report on the feasibility of restoring areas of washland to nature conservation use.

Strategy 2002

No cost

Develop management plans for all publicly owned sites.

Complete by 2006

Fees £2,000 per site

Agree suitable water level management plans with the Environment Agency.

Complete by 2006

No cost

Secure favourable management practices for all publicly owned sites.

Two sites by 2004
All sites by 2008

Water level controls
£500 each

Secure favourable management practices for all privately owned sites.

Ongoing

Water level controls
£500 each

Complete establishment of 12.5 ha of Reedbeds at Old Moor Wetland Centre.

Complete planting and water level controls by 2003

Reed Planting £8,000/ha²
Water level controls £500

Increase the area of Reedbeds in the immediate vicinity of Old Moor to at least 20 ha.

8 ha by 2003

As above

Develop a programme to monitor fish, food and amphibian populations in new Reedbeds

Develop programme by end 2003

Student expenses
£500 per year

Support the Environment Agency on actions to further improve water quality in the River Dearne.

Ongoing

No cost

Monitor planning decisions to ensure Local Planning Authority compliance with PPG 9.

Ongoing

No cost

Monitor to ensure flood defence works are undertaken in an ecologically sensitive manner.

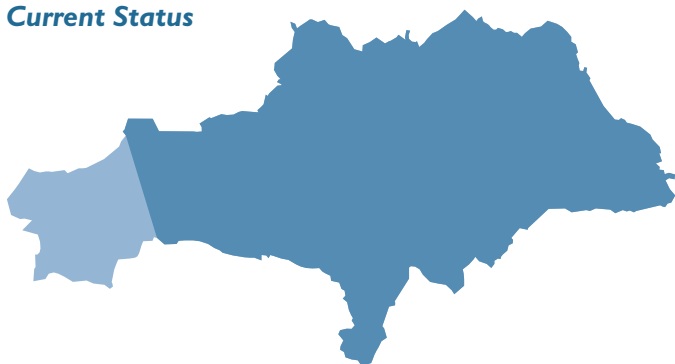
Ongoing

No cost

Ponds and Canals



Current Status



Description

This category includes natural and man-made waters less than 1 ha in size, including ponds, ditches, springs and canals. Generally very rich in wildlife, supporting all our amphibians, dragonflies and many other aquatic insects and regionally scarce plants such as Autumnal Water Starwort *Callitriche hermaphrodita*, Frogbit *Hydrocharis morus ranae*, Whorled Water Milfoil *Myriophyllum verticillatum*, Hair-like Pondweed *Potamogeton trichoides*, the nationally scarce Sweet Flag *Acorus calamus*, and the well known Marsh Marigold *Caltha palustris*.

Bottom-dwelling invertebrates such as snails, dragonflies and water beetles are abundant and some sites may support fish. Amphibians, including the protected Great Crested Newt *Triturus cristatus*, are often present.

Mammals such as Otter *Lutra lutra*, Water Vole *Arvicola terrestris*, Noctule Bat *Myotis daubentonii* and Brown Pipistrelle *Pipistrellus pygmaeus* are all heavily dependent on larger ponds and canals. The surrounding banks and adjacent areas can provide hunting grounds for Barn Owl *Tyto alba*.

National Status

Local significance only, but extremely important in that context. This habitat often supports a large range of flora and fauna, often not rare but important locally.

Local Status

The 1980 Phase I Habitat Survey of Barnsley identified 57 sites of significant value, including eight canals, 12 ditches, 35 ponds and two springs. Some 12 of these sites are included in the Natural Heritage Site (NHS) register.

There is no data for garden ponds, that must number in the hundreds.

Legal Status

Under the Environment Act, 1995, the Environment Agency has a duty generally to promote the conservation of aquatic flora and fauna. Water Companies, Internal Drainage Boards, British Waterways and Local Authorities also have statutory duties towards nature conservation.

Under the Wildlife and Countryside Act, 1981, some species are protected from damage and disturbance. There are various statutes covering water pollution and control to ensure that all surface waters have good ecological status and that there is no deterioration in water quality.

Under the Wildlife and Countryside Act, 1981, the unlicensed release to the wild of non-resident alien animals and some plants is prohibited. The keeping of non-native crayfish in England is also subject to licensing. Sites included in the Unitary Development Plan (UDP) as Natural Heritage Sites (NHS) have a presumption against development, but are not protected against operations which do not require planning consent.

Links with other Action Plans

FLS1	Otter
FLS2	Pipistrelle Bat
FLS4	Barn Owl
SAP2	Water Vole
SAP3	Great Crested Newt
HAP13	Reedbeds
HAP16	Standing Water

Current Factors Causing Loss or Decline

- Run off of organic and inorganic fertilisers can cause nutrient enrichment (eutrophication) of the water.
- Changes in land cover can increase the risk of pollution and of siltation, exacerbated by the removal of waterside vegetation and reedswamp, which are effective barriers.
- Ground subsidence and inappropriate excavation works in man-made structures such as canals, small dams etc can result in leaking and drying out.
- The introduction of fish, the removal of predators, and the manipulation of existing fish stocks for recreational fishing leads to the loss of natural fish populations and may affect plant and invertebrate communities.
- Heavy stocking of bottom-feeding fish such as carp *Cyprinus carpio* can cause turbidity and enrichment.

- Use of canals for recreational and sporting purposes may create disturbance, trampling of marginal vegetation and stirring up sediment, resulting in enrichment and growth of algae.
- Release of non-native plants and animals can be damaging ie the Signal Crayfish *Pacifastacus leniusculus*.
- Loss of small ponds to development and, where ponds are retained, they can be cut off from appropriate surrounding habitats ie grasslands, hedgerows etc important to the Great Crested Newt, and can suffer biological isolation from other ponds.
- Infilling of small ponds for safety reasons. Small farm ponds may cease to have a role and fall into disuse and neglect.

Current Local Action

- Some ponds are included in the NHS register.
- Several new ponds and pond complexes have been created on sites in the Dearne Valley, particularly Old Moor Wetland Centre.

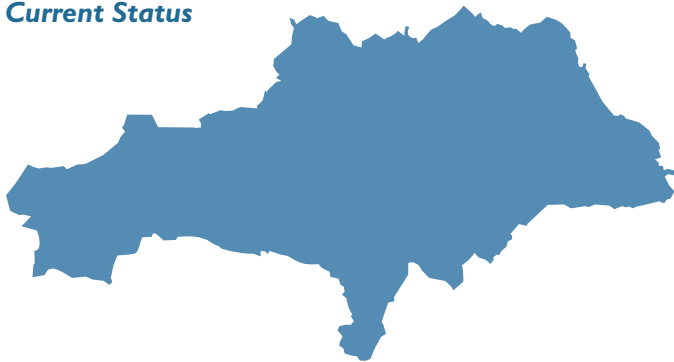
Proposed Local Action

ACTION	TARGET	COSTS
Ensure that all publicly owned NHS sites are recognised for their primary nature conservation value.	2002	No cost
Encourage the recognition of nature conservation value by private owners of NHS sites.	Target all private owners with information by end 2002	Volunteer expenses for information sheet £250
Develop a protocol with Local Planning Authority to ensure that NHS sites are not lost to development, highway schemes etc.	2002	No cost
Survey NHS sites to assess current management practices and identify priorities for improvement.	Survey by mid-2002 Strategy by end 2002	Volunteer expenses £100 per site
Survey all small ponds to identify present condition and assess priority for action. Prepare strategy.	Survey by mid-2003 Strategy by end 2003	Volunteer expenses £100 per site
Develop management plans for all publicly owned NHS sites.	Two per year	Fees £2,000 per site
Secure favourable management practices for all publicly owned NHS sites.	One per year	Task costs £100 per event for tidy-up
Secure favourable management practices for all privately owned NHS sites.	One per year	Task costs £100 per event for tidy-up
Monitor development schemes to ensure that ponds are not lost without adequate provision for replacement/enhancement and potential for the creation of new ponds.	Ongoing	No cost
Monitor Woodland Grant Scheme to ensure that proposals close to or in the catchment of ponds are appropriate and do not include inappropriate species.	Ongoing	No cost
Monitor recreational schemes involving NHS sites to ensure that they are not damaged or fragmented.	Ongoing	No cost
Monitor the development of fisheries to ensure that nature conservation issues are given full consideration at NHS sites.	Ongoing	No cost
Monitor planning decisions to ensure Local Planning Authority compliance with PPG 9.	Ongoing	No cost
Ensure that local planning policies take account of the wildlife interest of all ponds and canals.	Ongoing. Produce policy guidance	No cost

Running Water



Current Status



Description

There are no large water courses in the district, the majority of the running water being in the form of streams and small rivers, the largest being the Rivers Dearne and Don. The watershed of these two rivers follows the line of the A629 Huddersfield to Sheffield Road, passing to the east of Penistone. All streams to the east of this line flow eastwards into the Dearne catchment, including Cawthorne Dike, Daking Brook, Silkstone Beck, together with the River Dove and its tributaries such as Rockley Dike. To the west of the watershed the valleys of the River Don and the Porter or Little Don flow south-east to their confluence at Deepcar.

This habitat provides important sites for species such as Otter *Lutra lutra*, Pipistrelle Bat *Pipistrellus pipistrellus*, Daubenton's Bat *Myotis daubentonii*, Water Shrew *Neomys fodiens*, Water Vole *Arvicola terrestris*, Kingfisher *Alcedo atthis*, Sand Martin *Riparia riparia*, Banded Demoiselle *Calopteryx splendens* and native Freshwater Crayfish *Austropotamobius pallipes*.

National Status

Local significance only, but extremely important in that context.

Local Status

The district is drained by two main rivers, the Dearne and the Don, both of which have a number of important tributaries. Much of the character of the district derives from the pattern of hills and dales bisected with small streams and woodlands.

Legal Status

Under the Environment Act, 1995 the Environment Agency (EA) has a duty generally to promote the conservation of aquatic flora and fauna, so far as they consider it desirable, and to consult the statutory conservation agencies over any work likely to adversely affect an SSSI. Water Companies, Internal Drainage Boards, British Waterways, and Local Authorities also have statutory duties towards nature conservation.

Under the Wildlife and Countryside Act, 1981 the unlicensed release to the wild of non-resident alien animals, some established alien animals (American Mink *Lutreola vison*, European Pond Terrapin and certain species of wildfowl, amphibia, fish and crayfish) and some plants is prohibited. The keeping of non-native crayfish in England and Wales is also subject to licensing requirements under the Prohibition of Keeping Live Fish (Crayfish) Order, 1996.

Sites registered as NHS sites in the Unitary Development Plan (UDP) have a presumption against development, but are not protected against operations which do not require planning consent.

Links with other Action Plans

FLS1	Otter
FLS2	Pipistrelle Bat
FLS4	Barn Owl
HAP3	Wet Woodland
SAP2	Water Vole
SAP4	White-Clawed Crayfish

Current Factors Causing Loss or Decline

- River channel modification such as deepening and straightening, removing bankside vegetation and surrounding habitats.
- Pollution from industrial and sewerage discharges reduce water quality.
- Nitrates and phosphates from agricultural run-off can cause eutrophication.
- Overgrazing along river banks can cause erosion and lack of bankside cover.
- Development close to the river corridor resulting in loss of habitat.
- Structures within the river and its banks such as weirs and bridges preventing migration movements of fish and other small aquatic and land-based creatures.

- Excessive abstraction resulting in reduced flows.
- Culverting of smaller feeder streams.

Current Local Action

- Extensive works along the River Dearne at Broomhill by the Environment Agency to replace meanders and encourage the development of deeper pools and shallow gravel bars, including bankside improvements.
- Provision of artificial Otter holts at Old Moor Wetland Centre.
- Expansion of Yorkshire Otter project to the Dearne and Don catchment, inception of regular monitoring for signs of return of Otter.
- Substantial improvements in river water quality.

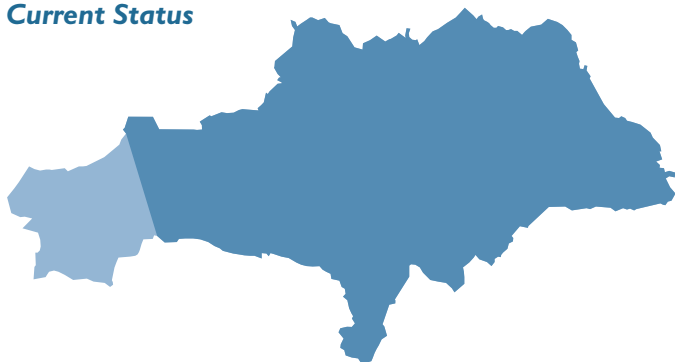
Proposed Local Action

ACTION	TARGET	COSTS
Develop protocol with Local Authority and Yorkshire Water to ensure that highway and drainage schemes contain suitable provision to ensure that bankside vegetation is not severed by bridgework and outfalls and that provision is made, where appropriate, for Otter and Badger underpasses in accordance with Highway Agency Guidelines.	2002	No cost
Survey to identify status of Crayfish in local rivers.	2002	Fees/Ecologist £5,000
Survey to identify roost sites and important feeding areas for Bats on local rivers.	2002	Volunteer expenses £250 per year
Survey to identify the status of Water Vole in local rivers and streams.	2002	Volunteer expenses £250 per year Training £500
Identify obstructions in existing river corridors which may become accident black spots later on when Otters return. Develop a strategy for improvement.	2003	Volunteer expenses £250
Identify target areas for habitat enhancement, particularly the restoration of riparian vegetation on bare sections of river bank.	Strategy by 2002 Improvements 2 km per year	Volunteer expenses for survey £250 per year Planting cost £3,500 per km
Identify secure and disturbance-free locations for potential Otter breeding sites and secure agreement with landowners.	End 2003	Volunteer expenses £250
Monitor river system for signs that Otters are present.	Ongoing	No cost
Monitor development proposals to protect the riparian strip and adjacent semi-natural habitats.	Ongoing	No cost
Monitor proposals for bridge works to ensure that the presence of target species such as Barn Owl and Bats are identified and that proper provision is made.	Ongoing	No cost
Monitor development proposals to identify opportunities for habitat restoration.	Ongoing	No cost

Standing Water



Current Status



Description

In their natural state Standing Waters have high biodiversity. Plant assemblages differ according to geographical area and nutrient concentration but Fennel-leaved Pondweed *Potamogeton pectinatus*, and Spiked Water-Milfoil *Myriophyllum spicatum* are characteristic throughout the UK. Common floating-leaved plants include Yellow Water Lily *Nuphar lutea* and there is often a marginal fringe of reedswamp, which is an important component of the aquatic ecosystems.

Bottom-dwelling invertebrates such as Snails, Dragonflies and Water Beetles are abundant and some sites may support large populations of the native Freshwater Crayfish *Austropotamobius pallipes*, coarse fish and amphibians. The abundance of food can support important bird populations, including large numbers of wintering waterfowl.

Mammals such as Otter *Lutra lutra*, Water Vole *Arvicola terrestris*, Noctule Bat *Nyctalus noctula*, Daubenton's Bat *Myotis daubentonii* and Brown Pipistrelle *Pipistrellus pygmaeus* are all heavily dependent on Standing Water.

National Status

The total area of still inland water is estimated as 532 km² in England.

Local Status

The 1980 Phase I Habitat Survey of Barnsley assessed the extent of standing water at 240 ha. These range from the acidic moorland reservoirs such as Langsett, to lowland reservoirs like Worsbrough, to ponds, lakes and canals mainly in the Dearne Valley.

Much of this resource is of high wildlife value. The Dearne Valley series of wetlands, in particular, supports important assemblages of species – breeding, migrant and wintering birds, scarce plants and insects. Fifteen (30%) of the 50 sites in the Natural Heritage Sites (NHS) list involve Standing Water.

Legal Status

Under the Environment Act, 1995 the Environment Agency has a duty generally to promote the conservation of aquatic flora and fauna. Water Companies, Internal Drainage Boards, British Waterways and Local Authorities also have statutory duties towards nature conservation.

There are various statutes covering water pollution and control to ensure that all surface waters have good ecological status and that there is no deterioration in water quality.

Under the Wildlife and Countryside Act, 1981, the unlicensed release to the wild of non-resident alien animals and some plants is prohibited. The keeping of non-native crayfish in England is also subject to licensing.

Sites included in the Unitary Development Plan (UDP) as Natural Heritage Sites have a presumption against development, but are not protected against operations which do not require planning consent.

Links with other Action Plans

FLS1	Otter
FLS2	Pipistrelle Bat
SAP2	Water Vole
SAP3	Great Crested Newt
SAP4	White-Clawed Crayfish
HAPI3	Reedbeds
HAPI4	Ponds and Canals

Current Factors Causing Loss or Decline

- Run-off of organic and inorganic fertilisers can cause nutrient enrichment of the water.
- Changes in land cover can increase the risk of pollution and siltation, exacerbated by the removal of waterside vegetation and reedswamp which are effective barriers.
- Ground subsidence and inappropriate excavation works in man-made structures such as canals, small dams etc can result in leaking and drying out.
- The introduction of fish, the removal of predators, and the manipulation of existing fish stocks for recreational fishing leads to the loss of natural fish populations and may affect plant and invertebrate communities.

- Heavy stocking of bottom-feeding fish such as Carp *Cyprinus carpio* can cause turbidity and enrichment.
- Use of canals for recreational and sporting purposes may create disturbance, trampling of marginal vegetation and stirring up of sediment, resulting in enrichment and growth of algae.
- Release of non-native plants and animals can be very damaging ie the Signal Crayfish *Pacifastacus leniuscula*.

Current Local Action

- Some 15 sites are included in the NHS register with a limited degree of protection from operations that require planning consent.
- Extensive new Standing Water bodies (15-20 ha) have been established in addition to the 12.5 ha of new Reedbeds at Old Moor Wetland Centre.

Proposed Local Action

ACTION

TARGET

COSTS

Ensure that all publicly owned NHS sites are recognised for their primary nature conservation value.

End 2001

No cost

Ensure the recognition of nature conservation value by private owners of NHS sites and seek to influence management practices.

Target all private owners with letter and information sheet by end 2003

Volunteer expenses for information sheet £250

Develop a protocol with Local Planning Authority to ensure that NHS sites are not lost to development, highway schemes etc.

Spring 2001

No cost

Survey NHS sites to assess current management practices and identify priorities for improvement.

Survey by mid-2002
Strategy by end 2002

Volunteer expenses
£100 per site

Review the Environment Agency report on the feasibility of restoring areas of washland to nature conservation use. Prepare outline strategy.

Strategy by end 2001

No cost

Develop management plans for all publicly owned NHS sites.

One per year until 2006

Fees £2,000 per site

Agree suitable water level management plans with Environment Agency.

Include with Management Plan production.

No cost
Include in above

Secure favourable management practices for all publicly owned NHS sites.

Two sites by 2004
All sites by 2008

No cost

Secure favourable management practices for all privately owned NHS sites.

Two sites by 2005

No cost

Monitor Woodland Grant Scheme to ensure that proposals close to or in catchment of Standing Water sites are appropriate and do not include inappropriate species.

Ongoing

No cost

Monitor planning decisions to ensure Local Planning Authority compliance with PPG 9.

Ongoing

No cost

Monitor recreational schemes involving NHS sites to ensure that sites are not damaged or fragmented.

Ongoing

No cost

Monitor the development of fisheries to ensure that nature conservation issues are given full consideration at NHS sites.

Ongoing

No cost

Ensure that local planning policies take account of the wildlife interest of all Standing Waters.

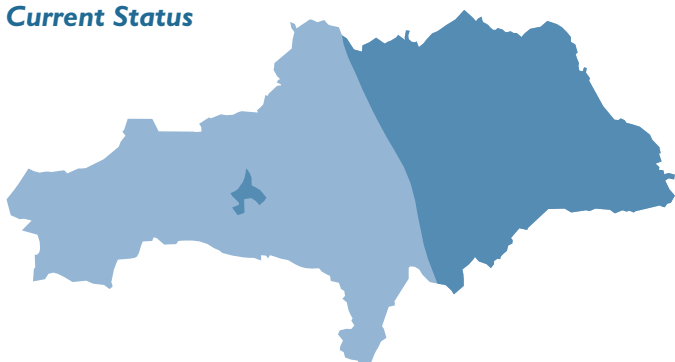
Ongoing
Produce policy guidance

No cost

Urban Built-Up Areas



Current Status



Description

Urban gardens, road verges and public open space now form a very significant resource for wildlife. Individual areas are small but cumulatively provide an area far in excess of that of nature reserves, indeed the combined area for built-up and amenity areas is greater than the area of semi-natural habitats in Barnsley.

Pipistrelle Bat *Pipistrellus pipistrellus*, House Sparrow *Passer domesticus*, Swallow *Hirundo rustica*, House Martin *Delichon urbica* and Swift *Apus apus* all rely principally on our houses for their roosting and breeding requirements. Tree Sparrow *Passer montanus*, Song Thrush *Turdus philomelos*, Hedgehog *Erinaceus europaeus* and many insects including butterflies are supported by well-grown gardens and garden ponds support all our amphibian species, especially Common Frog *Rana temporaria*. Mammals such as Badgers and Foxes are well accustomed to urban areas and often exist in higher numbers than in the countryside.

Within built-up areas there are important semi-natural sites, such as ancient woodland or meadows. It is increasingly appreciated that there are also recognisable 'natural' urban habitats which develop on waste ground and derelict sites. Often these contain a mix of native and alien introduced species such as Buddleia, creating a very diverse ecosystem. Whatever their origin, these sites offer most people their only opportunity to appreciate the importance of biodiversity.

National Status

The local significance of this habitat, when reproduced at national level, would achieve even greater importance. Demand for house building land is likely to put increasing pressure on the countryside and, whilst garden conservation cannot in any way replace lost habitats, it can provide a very significant resource for many common and vulnerable species.

Local Status

Barnsley has a land area of 32,833 ha. This is broken down into:

Agriculture	17,435 ha	53%
Semi-natural habitat	7,118 ha	22%
Built-up	5,256 ha	16%
Amenity and other land	2,080 ha	6%
Plantations	944 ha	3%

The total of built-up and amenity land is 7,336 ha, more than the total for all the semi-natural habitats in Barnsley put together.

Legal Status

Some species, such as Bats and Badgers, are protected under the Wildlife & Countryside Act, 1981.

Some trees will be protected by Tree Preservation Orders (TPOs) or policies relating to Conservation Areas.

Links with other Action Plans

Many of the species with action plans are found in urban areas. These include:

FLS2	Pipistrelle Bat
SAP9	Song Thrush
SAP3	Great Crested Newt
SAP10	Tree Sparrow

Current Factors Causing Loss or Decline

- New development, causing loss of natural habitats.
- Deliberate targeting of naturally vegetated derelict sites for development or landscaping.
- Unsympathetic management of open space, including inappropriate use of chemicals.
- The felling of trees for safety, especially those with cavities, removing nesting sites for birds and roosting sites for bats. In some instances hibernating bats have been killed by tree felling.
- The use of toxic timber treatment chemicals in roof spaces, poisoning bats.
- The conversion of old buildings/barns etc to residential or other use without taking account of existing wildlife.
- Removal of 'weed' species which produce nectar and seeds for wild creatures. Many cultivated plants and flowers are not as attractive to wildlife as native species.

- Over-manicured gardens providing few opportunities for wildlife. Most gardens have space for a bit of 'wilderness' where wildflowers are allowed to flourish.
- Property repairs causing loss of roosting sites for birds and bats, especially the entombing of bats in wall cavities etc by blocking access holes.
- The infilling of garden ponds for safety.
- Overstocking garden ponds with fish can result in loss of plant and invertebrate populations.
- Danger from new roads and traffic, especially where new roads cross traditional migration and feeding routes for Badger, Otter, Frogs and Toads.

Current Local Action

- Open space management.
- Environmental projects.

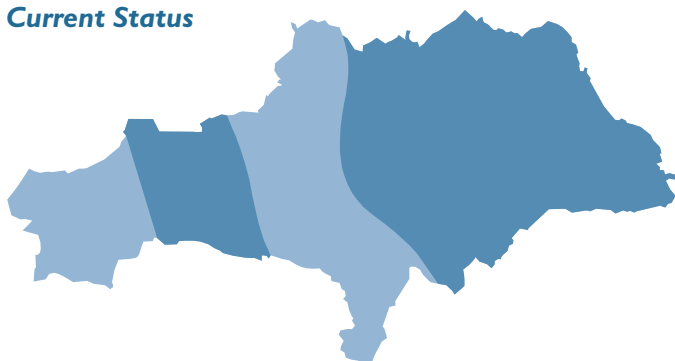
Proposed Local Action

ACTION	TARGET	COSTS
Promote the concept of green gardening for wildlife to members of the public.	Provide three events per year on gardening for wildlife	£1,000
Encourage garden bird feeding to benefit target species such as Tree Sparrow.	Promote feeding garden at Old Moor. Information sheet	Volunteer expenses £500
Survey urban sites to identify and protect those with good conservation interest.	Complete survey by 2002	Volunteer expenses £250
Prepare a strategy for the creation of a network of green corridors throughout the urban area.	Strategy by 2002	£1,000
Seek to achieve English Nature recommendations on access to green space.	2002	No cost
Promote public interest in the wildlife value of garden ponds to promote sympathetic management. Encourage pond owners to take part in an amphibian survey.	Publish leaflet in 2002	Volunteer expenses £250 Printing and distribution £750
Survey garden ponds to quantify the proportion with wildlife interest.	Target local newspapers Complete by 2003	Volunteer expenses £250
Encourage the recognition of nature conservation value by owners and land managers and seek to influence management practices.	Target all private owners with letter and leaflet by 2003	Volunteer expenses £250
Provide advice and support for the creation and management of school wildlife areas.	Create five new areas by 2005	£500 per site
Encourage alternatives to slug pellets to benefit target species such as Song Thrush.	Advice in local press Information sheet	No cost £250
Raise public awareness on the roosting needs of bats in relation to house maintenance.	Ongoing	No cost
Provide advice and promotion on wildlife issues in the urban area.	Ongoing	No cost
Ensure that existing wildlife legislation and local policies relating to wildlife are implemented effectively.	Ongoing	No cost

Post-Industrial Derelict and Degraded Land



Current Status



Description

This habitat normally involves derelict former industrial land such as former colliery sites, disused railways, mineral and clay extractions and other industrial practices.

It usually has a bare and sometimes lunar landscape in the early stages but, over time, progresses through a period of sparse vegetation and finally woodland, in some cases.

It is this transition which makes this habitat unique and often attracts a number of various species of flora and fauna that cannot survive in adjacent more intensified habitats.

Post-industrial land, such as spoil heaps, is nutrient and mineral deficient. Colonising vegetation is therefore often sparse and sometimes unusual. Spectacular assemblages of plants occur on some sites.

National Status

Widespread throughout the UK during former years but fast disappearing as a habitat in its own right due to 'formal greening' by landowners and Local Authorities.

Covers a variety of industrial practices throughout the UK such as china clay or tin extraction in Cornwall, sand and gravel extraction in the Midlands and coal mining in the north of England and caused landscape disturbance far in excess of anywhere else in Europe.

Local Status

There were at least 16 deep mines situated within Barnsley, with two main quarries for clay extraction, as well as other smaller related industries.

This created a patchwork of uncolonised and semi-colonised landscapes with associated wildlife such as Little Ringed Plover, which has spread through the UK from Europe during the past 40 years.

This species takes a liking to the bare open spaces of working and derelict colliery sites. Today a number of these colliery sites have been 'formally greened', causing Little Ringed Plover and a whole host of other species to lose their habitat.

Although post-industrial areas cannot be left as landscape eyesores, it is very important now to preserve 'mini habitats' within these areas to conserve species such as Little Ringed Plover and other important species. Due to agricultural intensification, these colonised sites offer the last remaining pocket for many important species of flora and fauna.

Legal Status

Some species within this habitat have legal protection under the Wildlife and Countryside Act, 1981. Sites listed in the Unitary Development Plan (UDP) as Natural Heritage Sites (NHS) have a presumption against development but have no protection against operations which do not require planning consent.

Links with other Action Plans

SAP1	Brown Hare
SAP3	Great Crested Newt
SAP6	Grey Partridge
SAP7	Little Ringed Plover
SAP8	Skylark
SAP12	Linnet
FLS4	Barn Owl

Current Factors Causing Loss or Decline

- Loss of sites due to reclamation and development.
- Drainage of land.
- Highway schemes.
- Unsympathetic reclamation schemes to retain species.
- Poor aftercare and maintenance of sites which have been landscaped to accommodate wildlife.

Current Local Action

- Proposals on landscaping and conservation from individuals on the Town Councils.
- Some monitoring and recording of wildlife on sites by Barnsley Natural History Society, Barnsley Bird Study Group and other individuals.

Proposed Local Action

ACTION	TARGET	COSTS
Local Authority to provide schedule of planned dates for site reclamation.	2002	No cost
Monitor reclamation schemes to ensure that valuable habitats are not lost without adequate provision for replacement/enhancement and potential for the creation of new habitats.	Ongoing	No cost
Encourage the recognition of nature conservation value by owners and land managers and seek to influence management/reclamation practices.	Prepare promotional report on opportunities for habitat creation	No cost
Survey of remaining areas of derelict land to identify existing wildlife value and factors supporting key species such as Little Ringed Plover, Barn Owl, Great Crested Newt and various rare plants.	2002-2005	£1,000 per year

Species Action Plans

SAP1	Brown Hare
SAP2	Water Vole
SAP3	Great Crested Newt
SAP4	White-Clawed Crayfish
SAP5	Bittern
SAP6	Grey Partridge
SAP7	Little Ringed Plover
SAP8	Skylark
SAP9	Song Thrush
SAP10	Tree Sparrow
SAP11	Twite
SAP12	Linnet
SAP13	Corn Bunting

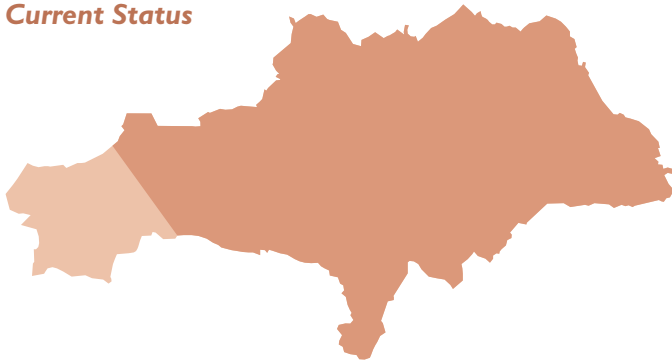


Brown Hare

Lepus europaeus



Current Status



Description

The Brown Hare is a familiar farmland species in Britain. Although sometimes confused with rabbits, Brown Hares are bigger, have much larger ears, longer legs and reddish-brown fur. They were probably introduced by the Romans and are widespread except in the Scottish Highlands and Pennines, where they are replaced by the Mountain Hare *Lepus timidus*.

Mountain Hare are found in the Pennines usually on ground above 300 metres. Although native to the Scottish Highlands, this species is a more recent introduction in the district as a result of the actions of the large moorland sporting estates.



National Status

The Brown Hare appears to have undergone a general and substantial decline in numbers from areas of farmland since the early 1960s.

Local Status

Although present throughout Barnsley, except on the western moors where Mountain Hares occur instead, little is known about the status of this species other than occasional records. Casual observation suggests that there may be a slight increase in numbers of late due to the 'greening' of many areas of former industrial land.

A survey would reveal the true status of the species.

Legal Status

Protected under the Game Acts.

Links with other Action Plans

- HAP5 Ancient and Species-Rich Hedgerows
- HAP6 Cereal Field Margins
- HAP9 Lowland Dry Acidic Grassland
- HAP10 Lowland Heathland
- HAP18 Post-Industrial Derelict and Degraded Land

Current Factors Causing Loss or Decline

- Loss of habitat diversity in the agricultural landscape.
- Conversion of grassland to arable.
- Changes in cropping regimes, grassland management for silage not hay, autumn sowing of cereals.

Current Local Action

There is no current local action specifically targetted on the Brown Hare. Recording is sporadic.

Proposed Local Action

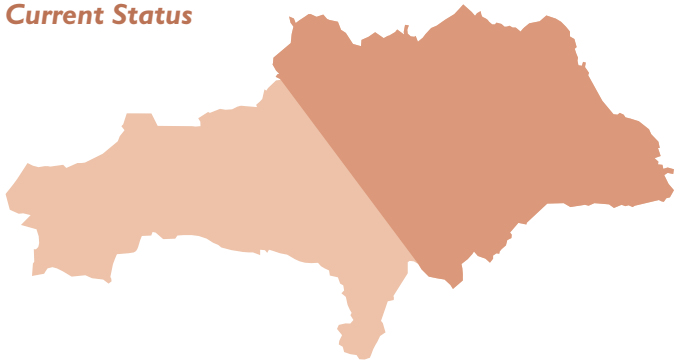
ACTION	TARGET	COSTS
Farm conservation day to promote ideal hare habitat.	2002	£500
Undertake a survey of Brown Hare in Barnsley.	2003	£2,000
Produce a leaflet of the habitat needs of Brown Hare.	2003	£1,250
Give advice and support to landowners creating hare habitats.	2002>	No cost

Water Vole

Arvicola terrestris



Current Status



Description

The Water Vole is the largest of the British voles with a head and body measuring around 20 cm. Water Voles inhabit the banks of slow-flowing rivers, streams and ditches as well as still water such as lakes, ponds and dykes. Their presence can be determined by searching for their burrows at and above water level, together with characteristic piles of droppings (latrines) and feeding remains.

The famous 'Ratty' from *Wind in the Willows* is a Water Vole. Despite that name, they are not rats and they suffer from much unfair persecution when mistaken as such. Water Voles are one of the easiest mammals to see in the wild. They need suitable habitat in close proximity to allow populations to expand and recolonise areas. Water Voles also need areas to retreat to in the event of flooding. Water Voles do not hibernate, but remain in their burrows for much of the winter with a food store.



National Status

The Water Vole is found throughout Britain with strongholds in lowland areas near water. Once common and widespread, this species has suffered a significant decline in numbers and distribution. A national survey in 1989-90 failed to find signs of voles in 67% of sites where they were previously recorded, and it is estimated that this will rise to 94% by the turn of the century. A recent population estimate based on the number of latrines found suggested a total Great Britain pre-breeding population of 1,200,000 animals.

Local Status

Within the Barnsley area the main areas which still contain this species are the Rivers Dove and Dearne, with parts of the remaining Barnsley canal system. Unfortunately, mink are moving into these areas increasing the threat to remaining populations.

Legal Status

In 1998 they received limited protection under the Wildlife and Countryside Act, 1981. It is now an offence to damage or destroy or obstruct access to any place which Water Voles use for shelter or protection.

Links with other Action Plans

The Water Vole action plan will also benefit Otters and has close links with both the Ponds and Canals and Running Water action plans:

- FLS1 Otter
- HAP7 Floodplain Grazing Marsh
- HAPI3 Reedbeds
- HAPI4 Ponds and Canals
- HAPI5 Running Water
- HAPI6 Standing Water
- SAP5 Bitterns

Current Factors Causing Loss or Decline

- Loss of suitable bank-side habitats as a result of engineering, bank-side development or over-zealous vegetation clearance.
- Population fragmentation: increasingly, populations are being isolated by new roads, canalisation, development and loss of habitat.
- Water level fluctuations: Water Voles need slow water level fluctuations or refuge areas to retreat to when water levels rise quickly.
- Predation: the spread of non-native mink throughout the UK has significantly increased the severe decline in Water Vole numbers.

- Pollution: contamination of water by pesticides, heavy metals, slurry and sewage may have contributed to the decline.
- Poisoning: indirect poisoning of Water Voles by brown rat poison.

Current Local Action

A national survey for Water Vole was conducted by the Vincent Wildlife Trust in 1989-90. Yorkshire Wildlife Trust has an Otter and Rivers project covering South Yorkshire. There are no current population figures for Barnsley.

Proposed Local Action

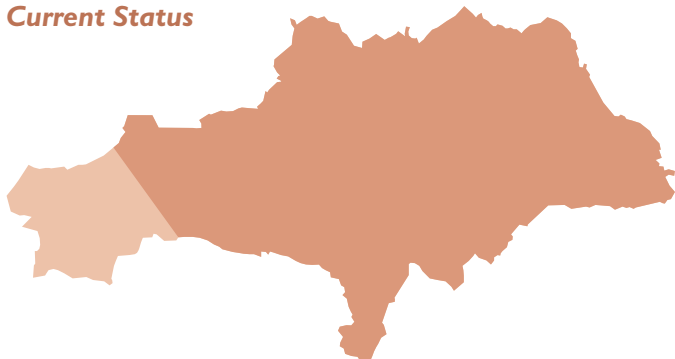
ACTION	TARGET	COSTS
Hold a 'Wind in the Willows' event to raise public awareness of Water Vole.	2002	£500
Organise a training day on Water Vole habitat management and awareness.	2002	£500
Targeted survey of Water Vole in Barnsley.	2002-2003	£2,000
Control of mink along Water Vole habitat.	2001-2010	£1,000 pa = £10,000 total
Annual monitoring of Water Vole in Barnsley at established and possible new sites.	2002-2010	£500 pa
Restore 500 m of river bank as suitable habitat each year at appropriate locations.	2003	£1,000 pa = £7,000 total

Great Crested Newt

Triturus cristatus



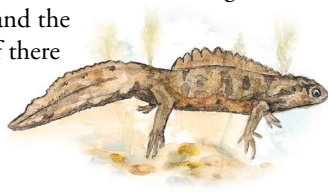
Current Status



Description

The Great Crested Newt is an impressive animal, considerably larger than our other two species of newt. Appearing almost black above, it has a bright orange belly with black spots. In the breeding season the male has a crest along its back.

Great Crested Newts have a requirement for large deep pools, with an abundance of floating and submerged vegetation during the breeding season (April to August). They prefer ponds with no fish. Most of the year they are terrestrial and they require tall grassland and woodland to hunt and over-winter. This surrounding terrestrial habitat is particularly important and the newts are more likely to survive if there are a number of suitable ponds within a small area.



National Status

The Great Crested Newt is still quite widespread in Britain.

The species may be numerous locally in parts of lowland England and Wales but is absent or rare in parts of Cornwall and Devon. It has a more restricted distribution in Scotland and it is absent from Northern Ireland.

The species has suffered a decline in recent years, with studies in the 1980s indicating a national rate of colony loss of approximately 2% over 5 years. It is estimated that there are a total of 18,000 breeding sites within Britain which may contain Great Crested Newts, although only 3,000 of these have been identified. The British population is amongst the largest in Europe, where it is threatened in several countries.

Local Status

Barnsley currently has eight identified separate sites for this species and a further survey would complete the full picture of status.

Legal Status

The Great Crested Newt is listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. It is protected under Schedule 2 of the Conservation (Natural Habitats, etc) Regulations, 1994, (Regulation 38) and Schedule 5 of the Wildlife and Countryside Act, 1981.

Links with other Action Plans

- HAP3 Wet Woodland
- HAP4 Parkland
- HAP5 Ancient and Species-Rich Hedgerows
- HAPI4 Ponds and Canals
- HAPI6 Standing Water
- HAPI8 Post-Industrial Derelict and Degraded Land

Current Factors Causing Loss or Decline

- Loss of suitable breeding ponds caused by water table reduction, in-filling for development, intensive farming, waste disposal, neglect or fish stocking and the degradation, loss and fragmentation of terrestrial habitats.
- Pollution and toxic effects of agrochemicals.

Current Local Action

There is currently no local action specifically for Great Crested Newts. However, they will benefit from wetland creation schemes and from the creation and restoration of farm ponds under schemes such as the Countryside Stewardship Scheme. There have been past actions to conserve this species when affected by new developments.

Proposed Local Action

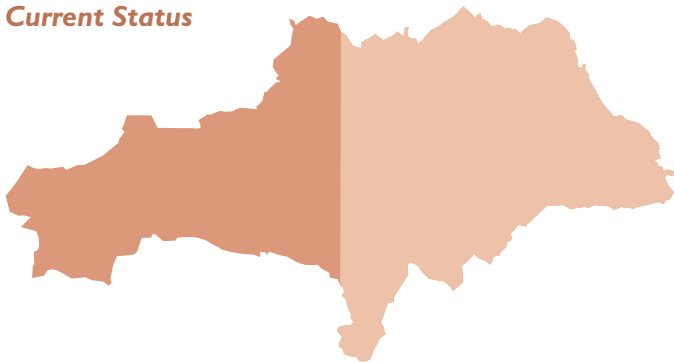
ACTION	TARGET	COSTS
Undertake a survey of breeding sites in Barnsley.	2002	£1,000
Produce a leaflet on pond management for Great Crested Newt.	2002	£1,250
Establish a suitable regime of pond management at Willowbank.	2003	£1,000
Create a pond complex at a suitable location.	2005	£4,000
Undertake a survey of breeding sites in Barnsley.	2007	£1,500

White-Clawed Crayfish

Austropotamobius pallipes



Current Status



Description

The White-Clawed Crayfish is the only species of freshwater crayfish which is native to the UK. It grows to about 10 or 12 cm in length and gets its name from the pale undersides to its claws which contrast with the upper side of the animal, which is dark greenish brown. Crayfish have fearsome looking 'pincers' though they rarely use them.

Crayfish live in both flowing and still water, and are usually found in calcareous streams with stony beds. However, they do live in other areas and can live in water with some sediment. They take about six years to reach full size, but breed after three or four years. They mate in October/November, with eggs hatching the following May/June.

White-Clawed Crayfish require good water quality to support their prey species – insect larvae and fish. They also feed on larger plants and detritus. Crayfish are declining for a number of reasons, including direct competition from three introduced species. These alien species also spread a fungal disease which is killing off our native crayfish.



National Status

In Europe this crayfish was formerly widespread in France, Spain and Italy, but populations are now confined to a diminishing number of areas. It is widespread in appropriate sites across the UK, but many populations have been lost since the 1970s. There are still disease-free strongholds of the crayfish in parts of the North Pennines.

Local Status

There is evidence that this species still exists within the stream system in western Barnsley, and a future survey will reveal its true status in the area.

Legal Status

The species is listed in Appendix III of the Bern Convention and Annexes II and V of the EC Habitats Directive. It is classed as globally threatened by IUCN/WCMC. It is protected under Schedule 5 of the Wildlife and Countryside Act, 1981 in respect of taking from the wild and sale. The Salmon and Freshwater Fisheries Act, 1975 prohibits the taking of this species by certain methods and requires consent for proposed introductions.

Links with other Action Plans

Work to promote the crayfish will also relate to the Action Plan for Running Water.

HAPI5 Running Water

HAPI6 Standing Water

Current Factors Causing Loss or Decline

- Crayfish plague is a disease caused by the fungus *Aphanomyces astaci* which is carried by some North American Crayfish including the Signal Crayfish *Pacifastacus leniusculus*. Spores from the fungus can also be transmitted by a variety of other means, including water, fish and damp equipment.

- Direct competition for food and habitat from non-native crayfish: three non-native crayfish species are now breeding in the wild.
- Habitat modification and management of waterbodies.
- Pollution, particularly pesticides and sewage.

Current Local Action

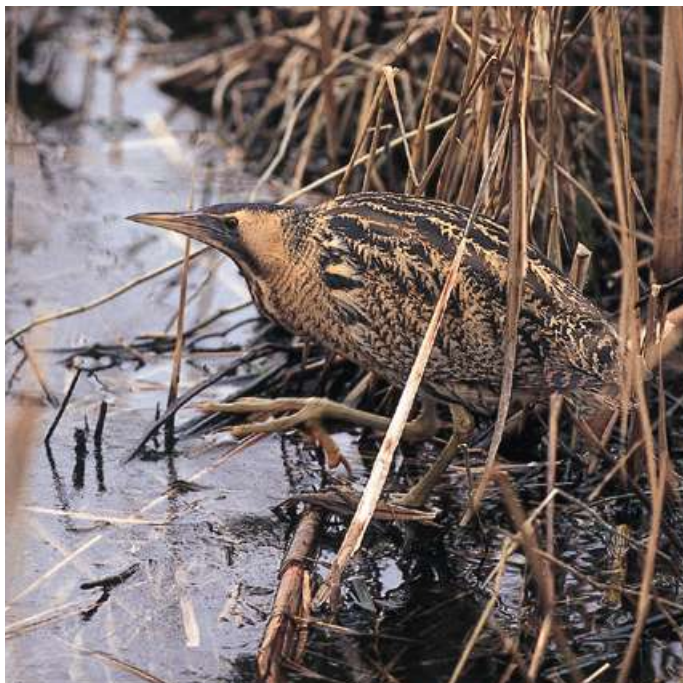
There is no current action locally.

Proposed Local Action

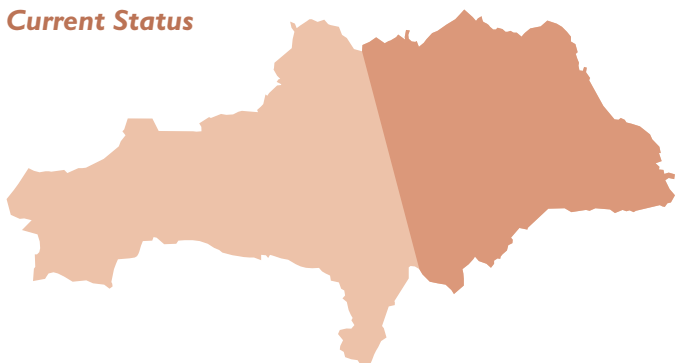
ACTION	TARGET	COSTS
Initial survey of White-Clawed Crayfish in Barnsley.	2002	£1,000
Produce a leaflet to highlight the habitat and needs of White-Clawed Crayfish.	2002	£1,250
Remove non-native crayfish from streams if appropriate.	2003	£2,000
Further survey of White-Clawed Crayfish in Barnsley.	2007	£1,500

Bittern

Bottaurus stellaris



Current Status



Description

The Bittern is smaller than the closely related heron and much more secretive. They are heavily camouflaged in shades of brown and buff with a variety of mottled markings.

Although rarely seen, the male's unmistakable booming call in spring is a good indication of potential breeding. The Bittern is dependent on large areas of reed for breeding. Bitterns have dramatically declined in recent years, due to habitat loss through drainage and decline of food supply such as fish and amphibians.



National Status

The Bittern is a declining, localised and rare breeding species. It is confined almost entirely to lowland marshes in Norfolk, Suffolk and Lancashire, dominated by the common reed *Phragmites australis*. It feeds principally on fish and amphibians. The UK population had declined to 15 or 16 'booming' males in 1994 from a peak of 70 pairs in the late 1960s, when they bred in eight counties. Numbers are boosted in winter by continental migrants (usually less than 100).

Local Status

Within Barnsley this species is recorded as a passage migrant or occasional winter visitor, but future reedbed habitat creation may assist in colonisation.

Legal Status

The Bittern is listed on Annex I of the EC Birds Directive and Appendix III of the Bern Convention. It is protected in the UK under Schedule I of the Wildlife and Countryside Act, 1981.

Links with other Action Plans

This action plan links very closely with the Reedbed Habitat Action Plan. There may also be benefits to Otters.

HAPI3 Reedbeds

FLSI Otter

Current Factors Causing Loss or Decline

- Loss of suitable large reedbeds through succession, inappropriate management (particularly drainage and water abstraction).
- Degradation of habitat through water pollution, pesticide and heavy metal pollution.
- Food availability, especially of eels, affected by inappropriate habitat management and pollution.
- Problems due to small isolated population size.

Current Local Action

- Large reedbeds are being created at Old Moor Wetland Centre. These have been deliberately designed to attract Bittern.
- Reedbed management is also to be undertaken at Worsbrough Reservoir.

Proposed Local Action

ACTION

TARGET

COSTS

Establish an effective partnership with the Environment Agency, RSPB, Barnsley MBC and others to look at improvements to washlands sites along the Dearne to benefit Bittern.

2001>

No cost

Undertake local research to identify areas of reedbed which have been lost and the best sites for re-creation.

2001

Refer to HAP

Complete the creation of 15 ha of reedbed at Old Moor.

2003

Refer to HAP

Improve the established reedbed at Worsbrough Reservoir.

2003

Refer to HAP

Produce a detailed scheme to create a reedbed at Bolton Ings.

2004

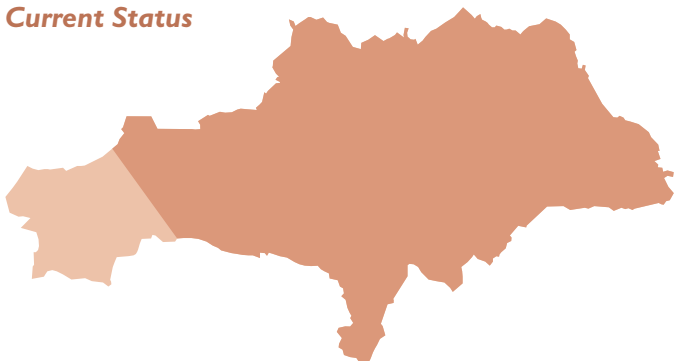
Refer to HAP

Grey Partridge

Perdix perdix



Current Status

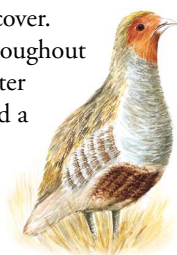


Description

This familiar bird of open country – including farmland – has an orange brown face, grey breast and belly, all closely and finely barred, chestnut bars on the flanks and a curved horseshoe-shaped mark on the upper belly.

Grey Partridges nest on the ground in hedge bottoms, grass margins, game cover and nettle beds. Dead, tussocky grass left over from the previous year is particularly attractive as nesting cover.

Adult Grey Partridge feed on seeds and shoots throughout the year on areas such as rotational set-aside, winter stubble, weeds and crop margins. The chicks need a diet of insects, especially caterpillars, bugs, ants and aphids, taken mainly from crop margins and weed areas.



National Status

The UK population of Grey Partridge declined by over 50% between 1969 and 1990. Populations in some mixed farming areas seem stable, but in other areas declines have sometimes exceeded 95%.

Local Status

The breeding population of this species in Barnsley may exceed 100 pairs and a comprehensive survey would reveal the true status of this species in the Borough.

Casual observations suggest that there may have been a slight increase in the eastern parts of the Borough due to 'greening' of former industrial areas.

Legal Status

The Grey Partridge is protected in Britain under the Game Acts. It is also listed on Annex III/I of the EC Birds Directive and Appendix III of the Bern Convention.

Links with other Action Plans

This Action Plan should be considered in conjunction with those for other species and habitats of open agricultural landscapes:

- HAP5 Ancient and Species-Rich Hedgerows
- HAP6 Cereal Field Margins
- HAP9 Lowland Dry Acidic Grassland
- HAP18 Post-Industrial Derelict and Degraded Land
- SAP8 Skylark
- SAP9 Song Thrush
- SAP10 Tree Sparrow
- SAP13 Corn Bunting

Current Factors Causing Loss or Decline

- Loss of nest sites (such as hedge bottoms) to farm intensification.
- Reduced food supplies and sources for chick food through the use of pesticides and herbicides, as well as the loss of winter stubble feeding grounds for overwintering birds.
- Vulnerability of nests to predators in farmland with poor cover.
- Nest destruction caused by early mowing and other farm operations.

Current Local Action

- The Game Conservancy Trust (GCT) encourages land managers to create suitable conditions for Grey Partridge, including suitable nest sites and cover, summer and winter feeding areas (eg conservation headlands and winter stubbles), and control of predators and shooting.
- A Species Action Plan has been prepared for this species by the RSPB, FWAG and the GCT.
- DEFRA will continue to manage 'agreement land' sensitively for this species.

Proposed Local Action

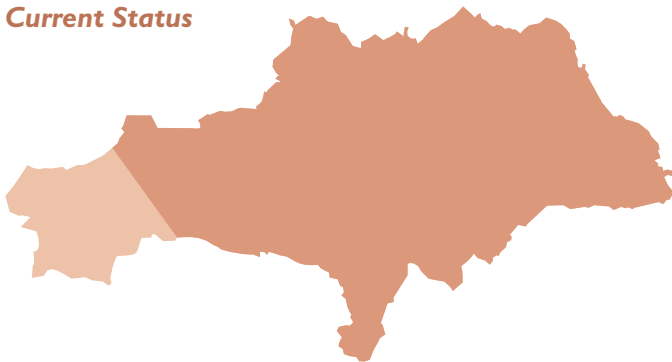
ACTION	TARGET	COSTS
Farm conservation open day to highlight the habitat needs.	2002	£500
Initial survey of wintering population of Grey Partridge in Barnsley.	2002-2003	£1,500
Produce leaflet on the habitat needs of Grey Partridge for landowners.	2003	£1,250
Support Countryside Stewardship, Cereal Field Margins and Hedgerow management.	2003>	No cost
Further survey of wintering population of Grey Partridge in Barnsley.	2007	£2,000

Little Ringed Plover

Charadrius dubius



Current Status



Description

Little Ringed Plover is a scarce summer visitor from Africa and has spread from continental Europe as a breeding species during the 1930s.

The bird has sandy-brown upperparts and white underparts with black neck and head markings and a yellow eye-ring.

It frequents wetlands and water features in the district, where it breeds on shingle islands and waterside stones at some sites. The bulk of the population, however, breeds on post-industrial ground or any suitable extensive bare ground and mainly in the eastern part of Barnsley.

The nest site is usually on bare ground, but when the young hatch they require wet areas and pools for feeding.



National Status

The first breeding record for Little Ringed Plover was in 1938 and the subsequent spread in England and Wales is one of the ornithological success stories of the 20th century. The present UK population is estimated at 600 pairs. The birds have adapted to man-made nesting areas and these have become their most favoured habitats. The present population is stable, although there is some concern for the long-term future of the species; gravel and mineral workings become exhausted and man-made sites are restored and put to other uses, so that areas where this species has bred through a succession of years may be lost forever.

Local Status

There is presently a healthy population of Little Ringed Plover in the Barnsley area; the 16 pairs located in 2000 could possibly account for 3% of the national population.

Four pairs attempted breeding at the Old Moor Wetland Centre, five pairs at Grimethorpe on derelict industrial land and spoil heaps, and seven pairs on development land in the Dearne Valley. There is also a possibility that other suitable sites may be used, but these remain unrecorded.

Legal Status

The Little Ringed Plover is afforded national conservation status through its inclusion in Schedule I of the Wildlife and Countryside Act, 1981.

Links with other Action Plans

HAP7 Floodplain Grazing Marsh

HAP18 Post-Industrial Derelict and Degraded Land

Current Factors Causing Loss or Decline

Much of the habitat on post-industrial sites has been lost, with the remaining sites being scheduled for reclamation works in the next few years. Little Ringed Plovers have also bred on shingle islands at Old Moor Wetland Centre, but many of these islands have been lost as breeding sites through bad management, resulting in the invasion of vegetation. A large proportion of the Barnsley area breeding population has recently bred on land scheduled for

development. These sites are only temporary, and if not developed in the near future will be lost through succession to pioneer vegetation.

Current Local Action

Attempts have been made to keep clear some islands from vegetation at the Old Moor Wetland Centre. Recording by Barnsley Bird Study Group annually mainly within the lower Dearne valley.

Proposed Local Action

ACTION	TARGET	COSTS
Initial survey of the breeding population in Barnsley.	2002	£1,000
Leaflet on the habitat needs of Little Ringed Plover.	2002	£1,250
Support work at Old Moor to retain the species and other Dearne Valley sites.	2002-2003	£2,000
Target four other wetland sites in the Dearne Valley for habitat retention and creation.	2002-2006	Refer to HAP18 (future developments)
Further survey of the breeding population in Barnsley.	2007	£1,500

Skylark

Alauda arvensis



Current Status



Description

With its famous ascending and prolonged song flight, the Skylark was once the most distinctive bird of open agricultural terrain and other grassy areas.

The bird has a complex pattern of buff and brown plumage, a fairly stout beak, and short crest. In flight, the wings and short tail have trailing edges of white. The Skylark avoids trees and nests on the ground in vegetation 20-50cm high. This vegetation must be open enough to give the bird easy access.

They have two to three broods between April and August. Both autumn- and winter-sown cereals grow too tall and dense by spring and grass silage is cut too frequently to allow successful breeding. Adults feed on the seeds of crops and weeds in winter, and along with the chicks, they feed on insects in summer. This food is found in crops, set-aside and pasture land.



National Status

The Skylark is amongst the most widespread of open country breeding birds. Nonetheless, the UK breeding population is in sharp decline. Numbers on lowland farms fell by 61% between 1971-1995. Recent studies indicate similarly steep declines in upland habitats. The Skylark is a priority species in the UK Biodiversity Action Plan on account of its declining population.

Local Status

Skylarks continue to breed throughout Barnsley wherever suitable habitat remains and are absent only from the most heavily built-up areas. The breeding population in 1997-99 was thought to be around 500-750 pairs.

Legal Status

The Skylark is protected under the EC Birds Directive and the Wildlife and Countryside Act, 1981.

Links with other Action Plans

- HAP7 Floodplain Grazing Marsh
- HAP8 Lowland Meadows
- HAP9 Lowland Dry Acidic Grassland
- HAPI2 Rush Pasture
- HAPI8 Post-Industrial Derelict and Degraded Land
- SAP6 Grey Partridge
- SAP9 Song Thrush
- SAPI0 Tree Sparrow
- SAPI3 Corn Bunting

Current Factors Causing Loss or Decline

- Intensive management of arable fields has reduced weeds and insect prey through the use of agrochemicals.
- The change from spring- to autumn-sowing of cereals has reduced the availability of weedy stubble fields, which provide an essential food resource; and also reduced suitable nesting habitat.
- Conversion of lowland grassland to arable, intensive management of grasslands and loss of mixed farms.
- The reasons for decline in the uplands are the loss of natural meadow areas and appropriate management.
- Early silage cutting which destroys nests and exposes them to predators.

- Conversion of farmland to silage production and intensification of arable land has reduced both feeding and nesting habitat.
- Scrub encroachment in some areas not under agriculture.
- Disturbance during the breeding season due to recreational pressure.
- Inappropriate mowing regimes in urban areas.
- Loss of grassland habitat to development and tree-planting.

Current Local Action

Local distribution and population size were estimated by Barnsley Bird Study Group in 1999.

Proposed Local Action

ACTION	TARGET	COSTS
Survey the winter population in Barnsley.	2002-2003	£1,000
Survey the breeding population in Barnsley.	2003	£500
Produce leaflet on the habitat needs of Skylark.	2003	£1,250
Encourage farmers/landowners to enter into Countryside Stewardship Scheme.	2003-2010 (30 farms)	£3,000
Work with RSPB in the Dearne corridor to provide suitable winter food habitat and breeding population.	2001-2010	No cost

Song Thrush

Turdus philomelos



Current Status



Description

The Song Thrush is familiar in most urban gardens and in woodlands but is in serious decline, particularly on farmland. It is a partial migrant with large numbers of continental breeding birds wintering in the UK.

Since the mid-1970s there has been a steady decline of Song Thrush, with an estimated reduction of 73% on farmland and 49% in woodland habitats.

Song Thrush will nest in woodlands with good cover, tall thick hedgerows and urban gardens. They nest early in the spring and usually have two to three broods between April and July.

The bulk of the Song Thrush diet is earthworms and snails with additional berry crops during winter months. Extensive use of pesticides that are active against ground invertebrates will reduce this food supply.



National Status

A once common bird of urban gardens, along with blackbird, there has been a major decline due to agricultural intensification and practice throughout the UK and with the extensive use of pesticides in urban gardens.

It is currently estimated that there are fewer than 900,000 pairs of Song Thrush in Britain.

Local Status

The current status of this species in Barnsley possibly exceeds 1,000 pairs. Song Thrushes are widespread throughout the Borough but absent on the moorlands and in low numbers on farmland habitats.

Legal Status

The Song Thrush is protected under the EC Birds Directive and the Wildlife and Countryside Act, 1981.

Links with other Action Plans

There are links with Song Thrush and BAP plans for other farmland birds:

- SAP6 Grey Partridge
- SAP8 Skylark
- SAP10 Tree Sparrow
- SAP13 Corn Bunting
- HAP5 Ancient and Species-Rich Hedgerows
- HAP6 Cereal Field Margins
- HAP17 Urban Built-Up Areas

Current Factors Causing Loss or Decline

- Changes in agriculture affecting food supply by the switch to autumn-sown cereals, and the increased and widespread use of pesticides.
- Loss of some hedgerows and changes in hedgerow management.
- Over-use of slug pellets in urban gardens which kill or contaminate snails, one of the main prey items of Song Thrush.

- Severe winter weather and dry soil conditions affecting food supply.

Current Local Action

There is no current local action other than general recording by Barnsley Bird Study Group.

Proposed Local Action

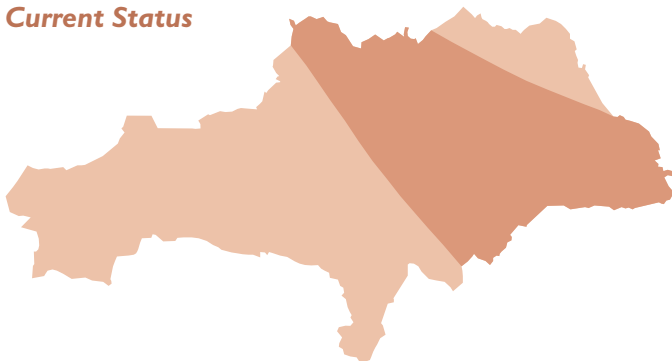
ACTION	TARGET	COSTS
Initial survey of breeding Song Thrush in Barnsley.	2003	£1,000
Provide a leaflet to show how gardeners can help Song Thrush.	2003	£1,250
Introduce a schools factsheet to raise awareness with schoolchildren.	2003	£1,000
Use sample urban garden sites to monitor Song Thrush with public involvement.	2003-2006	£500 pa = £2,500 total
Further survey of breeding population in Barnsley.	2008	£1,500

Tree Sparrow

Passer montanus



Current Status



Description

Slightly smaller than House Sparrow, with a chestnut crown.

A bird of colonial habits, it has a restricted distribution in rural districts, preferring relatively open countryside with old timber (for nest sites) and old buildings where it will nest in holes and cavities. Occasionally they build nests of dried grass and feathers in dense bushes and will also use nest boxes.

Tree Sparrow usually have two to three broods between April and August and feed the chicks on insects from a wide range of habitats including hedges, crops and waterside vegetation.

Adults feed mainly on seeds which they seek from rotational set-aside, winter stubbles, root crops, crop margins and weed areas.



National Status

Patchily distributed on farmland across Britain. The main populations are now found across the Midlands and southern and eastern England. There have been irregular fluctuations in numbers. In Britain there was a high population in the 1880s to the 1930s, but numbers then decreased to a low point around 1950. Numbers then increased again from 1960 to 1978, possibly due to an influx of birds from mainland Europe. There was a decline of 85% in numbers in Britain between the two breeding surveys of 1968-72 and 1988-91, the largest decline of any common species during this period. The Tree Sparrow also decreased in range in Britain by 20% over the same period. Populations are mainly sedentary but large-scale autumnal movements occasionally occur.

Local Status

There are known colonies at Old Moor Farm, Birthwaite Hall Farm and Edderthorpe, thriving partly due to nest box provision and winter feeding. Former smaller colonies now seem to have disappeared.

Legal Status

The Tree Sparrow is protected under the Wildlife and Countryside Act, 1981 and EC Birds Directive.

Links with other Action Plans

HAP4	Parkland
HAP5	Ancient and Species-Rich Hedgerows
HAP6	Cereal Field Margins
HAPI7	Urban Built-Up Areas
SAP6	Grey Partridge
SAP8	Skylark
SAP9	Song Thrush
SAPI3	Corn Bunting

Current Factors Causing Loss or Decline

- Changing agricultural practices, particularly the increased use of herbicides.
- Shift from spring-sown to autumn-sown crops and the consequent loss of winter stubble fields.
- More intensive management of grassland.
- Reduction of habitat diversity on farmland due to the loss of mixed farming and increased specialisation.
- Availability of nest sites may be a limiting factor.

- The loss of Elm trees from lowland Britain removed large numbers of potential nest sites.

Current Local Action

- Nest box schemes and winter feeding have been successfully implemented at Old Moor Farm and Birthwaite Hall Farm.
- DEFRA will continue to manage 'agreement land' sensitively for this species.

Proposed Local Action

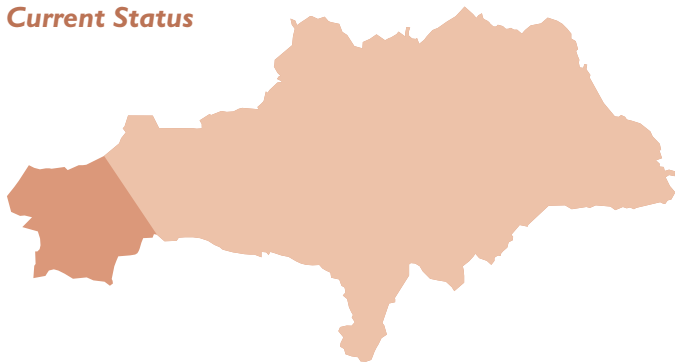
ACTION	TARGET	COSTS
Initial survey to identify breeding population in Barnsley.	2002	£500
Support for initial winter feeding programme.	2002-2005	£500 pa = £2,000
Provide leaflet on the habitat needs of Tree Sparrow.	2002	£1,250
Support retention of winter stubble as related to other farmland species.	2002>	No cost
Seek to expand to other adjacent sites and corridors and provide nest boxes.	2003>	£100 pa = £800 total
Further survey of breeding population in Barnsley.	2007	£1,000

Twite

Carduelis flavirostris



Current Status



Description

The Twite is a small brown bird heavily streaked above and below, with a pink rump. It is the upland equivalent of the Linnet.

Twite occur in largely treeless areas, notably hills, mountains and moorlands, and in winter coastal areas.

They breed mainly in areas of unenclosed moorland edge and fringing farmland. In the South Pennines, nests are mainly in tall heather or among mounds of bracken litter and on the ground.

During the breeding season birds may fly up to 2 km from the moorland nest site to species-rich meadows to feed. They feed mainly on seeds and, during the spring, particularly dandelion heads. In the summer months, the young are fed on sorrel, which is a close relative of dock, and this is the key species needed for their survival.



National Status

A Red List Bird of High Conservation Concern due to significant historical declines in population between 1800 and 1995. Formerly a Red Data Bird in Britain, as a species breeding and wintering in internationally-significant numbers.

In comparison to other passerines, little is known about the Twite's numbers, status and ecology.

In 1992 an estimated 65,000 pairs of Twite bred in the UK. The current population from a 1999 survey is thought to be an alarming 12,000 birds. It is clear that there has been a dramatic decline during the 1990s. The majority of birds are found in Scotland, with small populations in the South Pennines and in Wales. Britain holds the vast majority of the EC Twite population, in fact more than 90%.

Local Status

Twite in the South Pennines are now down to around 225 pairs with core populations around Halifax, Marsden and Meltham. The present Barnsley population could be as low as several pairs and are found mainly in the Winscar Reservoir area.

Legal Status

The Twite is protected in the UK under the Wildlife and Countryside Act, 1981, the EU Birds Directive and Appendix 2 of the Bern Convention.

Links with other Action Plans

HAPI I Upland Heathland

HAPI2 Rush Pasture

Current Factors Causing Loss or Decline

- Most important limiting factor on the breeding grounds is thought to be the agricultural intensification of the moorland fringe. This results in loss or overgrazing of herb-rich in-bye meadows and pastures important for feeding,
- The loss of heather and bracken nesting habitats through conversion to grassland.

- Overgrazing and excessive bracken control.
- Poor heather burning management.

Current Local Action

- RSPB research and evaluation of the Twite population in the South Pennine Uplands.
- Recording by Barnsley Bird Study Group.

Proposed Local Action

ACTION	TARGET	COSTS
Initial survey of the breeding population in Barnsley.	2001	£500
Support Countryside Stewardship of Upland Haymeadows.	2001-2010	No cost
Encourage Highways Authorities not to cut roadside verges until after seeding within five km of moorland habitat.	2002	No cost
Further survey the breeding population in Barnsley	2005	£500
Further survey the breeding population in Barnsley	2010	£750

Linnet

Carduelis cannabina



Current Status



Description

The Linnet is a small finch with brown upperparts and pale-buff underparts, with a grey head. In spring the male has a red forehead and breast.

The Linnet is a common and widespread species across the UK countryside where it uses weedy fields, hedgerows, gorse thickets, heathland and scrub. However, based on the Common Bird Census, numbers declined by 56% on farmland between 1968 and 1991.

Linnet nest in thick, thorny cover in hedgerows and gorse patches. They eat small seeds throughout the year from habitats such as rotational set-aside, winter stubbles, root crops and other weed areas.



National Status

The UK population was estimated at 540,000 territories in the New Breeding Atlas (1988-91). Linnet is widespread and common in much of Europe, though declining in some areas, particularly the Netherlands and Finland.

A variable proportion of the UK breeding population winters in Spain and western France; the birds remaining in the UK are joined by breeding birds from northern Europe.

The UK population of Linnet fell by 54% between 1970 and 1998.

Local Status

Encountered throughout Barnsley during the winter months, when flocks of around 500 birds are sometimes recorded, but breeding mainly in Barnsley where farming is perhaps less intensive. It is estimated that around 500 pairs breed in the Barnsley area (Addey 1998).

Legal Status

The Linnet is protected under the Wildlife and Countryside Act, 1981, EC Birds Directive, and is listed on Appendix II of the Bern Convention.

Links with other Action Plans

- HAP5 Ancient and Species-Rich Hedgerows
- HAP6 Cereal Field Margins
- HAPI0 Lowland Heathland
- HAPI1 Upland Heathland
- SAPI3 Corn Bunting

Current Factors Causing Loss or Decline

The recent decline of the Linnet has occurred at the same time as decreases in the numbers and/or range of other farmland birds which share its diet of grass and wildflower seeds, and some cereal grains. Linnets are more dependent than other seed-eaters on wildflower seeds during the breeding season, when the chicks are also fed on seeds rather than insects. It is likely that the decline in Linnets may be due to changes in agricultural practice, both in the UK and in their wintering range in south-west Europe.

Current Local Action

- The provision of rotational set-aside will have benefited the species, although this has been significantly reduced in area in recent years.
- Linnets may also have benefited from the provision of game cover crops and the young stages of conifer plantations.
- Broad-based recording of the species by Barnsley Bird Study Group.

Proposed Local Action

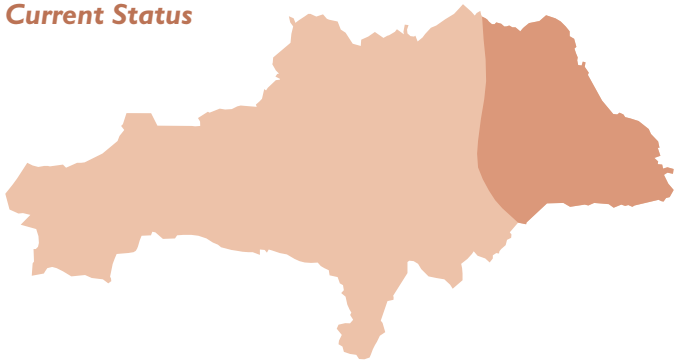
ACTION	TARGET	COSTS
Survey of breeding Linnet in Barnsley.	2002	£2,000
Survey of wintering Linnet in Barnsley.	2002-2003	£1,500
Produce a leaflet to highlight the habitat needs of Linnet.	2003	£1,250
Support for winter stubble retention and selected supplementary feeding.	2003-2010	£2,000 pa = £16,000
Promote that landowners retain gorse areas and have good hedgerow management	2001>	No cost

Corn Bunting

Miliaria calandra



Current Status



Description

Similar in size to the Skylark, the Corn Bunting is generally pale brown above and buff below with darker streaks, a brown tail and a stout pale bill.

Corn Buntings nest on the ground in cereal fields, set-aside, grass field margins or improved grassland. They start nesting during late spring in June and continue until August.

Corn Buntings take insects from crops, set-aside, grassland and field margins to feed their young. Breeding success relates directly to the availability of insect food. Adults feed mainly on seeds and cereal grain in arable crops.



National Status

Most of the population is now found across southern and eastern England. Its numbers and distribution have been declining for a century, with a 76% decline in breeding population between 1968 and 1991.

Local Status

The Corn Bunting is an uncommon breeding species in the Barnsley area and suffering from dramatic local decline. In 1998 the breeding population was around 25 pairs but the current population is possibly as low as 5-10 pairs. Around 1980 birds bred at various parts of Barnsley, including the Ingbirchworth area. Now they have retreated to the extreme eastern parts of the Borough.

Legal Status

The Corn Bunting is protected under the Wildlife and Countryside Act, 1981 and the EC Birds Directive.

Links with other Action Plans

HAP5	Ancient and Species-Rich Hedgerows
HAP6	Cereal Field Margins
HAP8	Lowland Meadow
HAPI3	Reedbeds
SAP6	Grey Partridge
SAP8	Skylark
SAP9	Song Thrush
SAPI0	Tree Sparrow
SAPI2	Linnet

Current Factors Causing Loss or Decline

- The loss of extensive mixed farming and winter food is thought to be a probable cause of the population decline. Weedy stubble fields are the most important feeding habitats during the winter. The area of winter stubbles has been greatly reduced in recent decades due to the switch from spring-sown to autumn-sown cereals, the decline in mixed farming and the disappearance of undersowing. In addition, increased herbicide and fertiliser use has reduced the abundance of wildflower seeds.
- The intensification of farming practices, such as the increased use of pesticides and fertilisers, has reduced the availability of insects which are essential as chick food. Changes in grazing/mowing regimes may reduce nest site availability and breeding success on grassland, and the decline in mixed farming has led to the

disappearance of insect-rich (and reduced input) undersown spring cereals.

Current Local Action

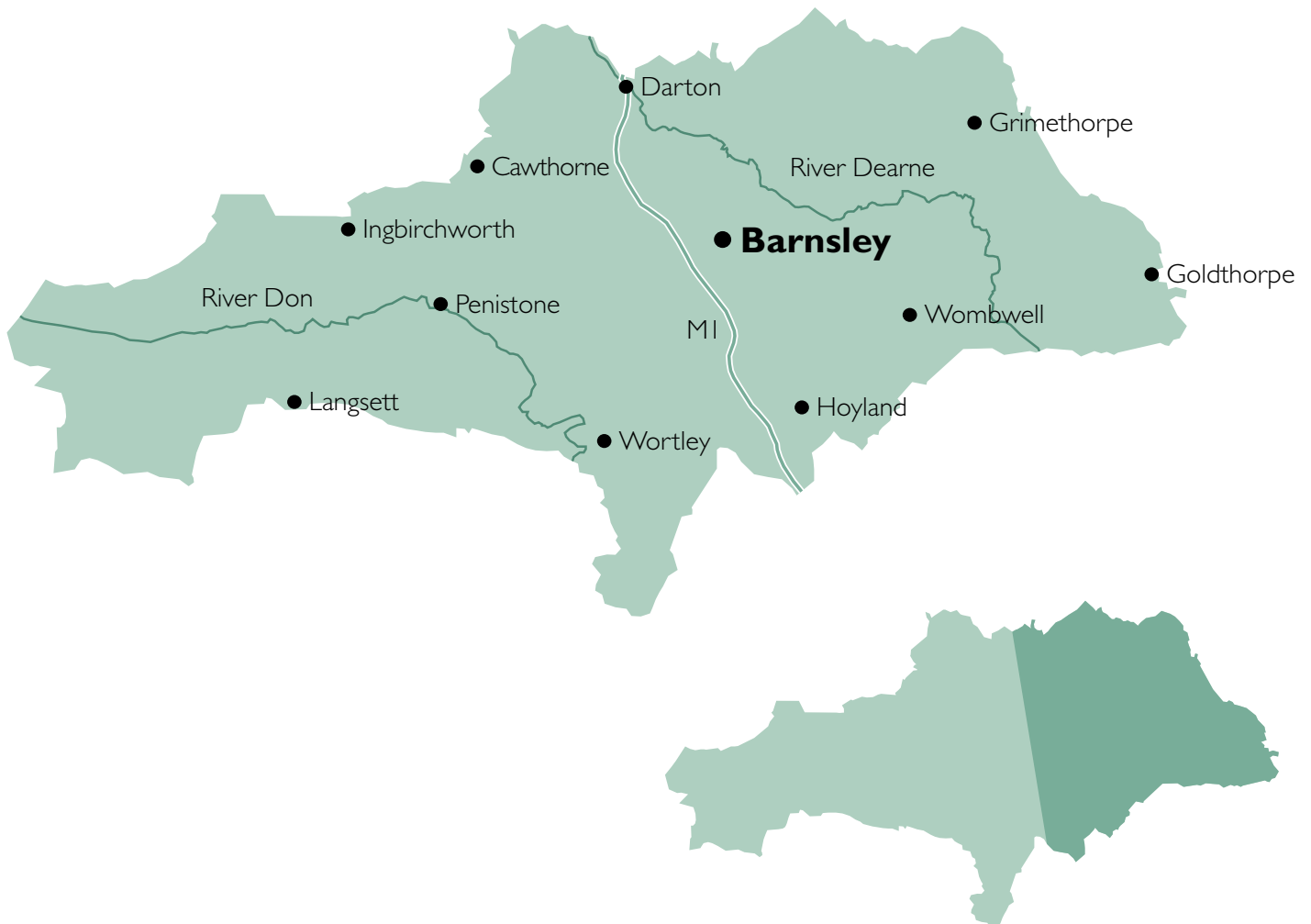
- Until recently the Corn Bunting was not regarded as a species of conservation concern and, hence, little direct action has been taken to help it. Census work by the British Trust for Ornithology has now highlighted the plight of the species and current research is investigating the causes of the decline.
- Rotational set-aside will have benefited the species, although this has been significantly reduced in area in recent years. New prescriptions encouraging the growth of undersown spring-sown cereals and retention of winter stubbles should also benefit the Corn Bunting.

Proposed Local Action

ACTION	TARGET	COSTS
Survey of the breeding population in Barnsley.	2001	£500
Survey of the wintering population in Barnsley.	2001-2002	£500
Promote specific farmland winter stubble projects annually (Countryside Stewardship).	2002-2010 (30 farms)	£3,000
Support Countryside Stewardship, Cereal Field Margins and Hedgerow Management.	2002>	Refer to HAP5 & 6

Barnsley Metropolitan Borough

Barnsley Metropolitan Borough extends from the coal measures of the former industrial centres in the east to the gritstone moorlands to the west. The area is drained by the Rivers Dearne and Don and their tributaries. The M1 corridor to the west of the town centre forms a boundary between the more built-up urban areas and the semi-rural western districts.



Maps

The maps show the current status of each species/habitat, with the darker tint representing the area where the species/habitat occurs.

Glossary

BTO	British Trust for Ornithology
CITES	Convention on International Trade of Endangered Species
CS	Countryside Stewardship
DEFRA	Department for the Environment, Food and Rural Affairs
EN	English Nature
FWAG	Farming and Wildlife Advisory Group
IUCN	International Union for the Conservation of Nature
LA	Local Authority
LEAP	Local Environment Agency Plan
MAFF	Ministry for Agriculture, Fisheries & Food (now DEFRA)
NHS	Natural Heritage Site
NNR	National Nature Reserve
PPG 9	Planning Policy Guidance No. 9
RSPB	Royal Society for the Protection of Birds
SNCO	Statutory Nature Conservation Organisation
TPO	Tree Preservation Order
UK BAP	United Kingdom Biodiversity Action Plan
WCMC	World Conservation Monitoring Centre