

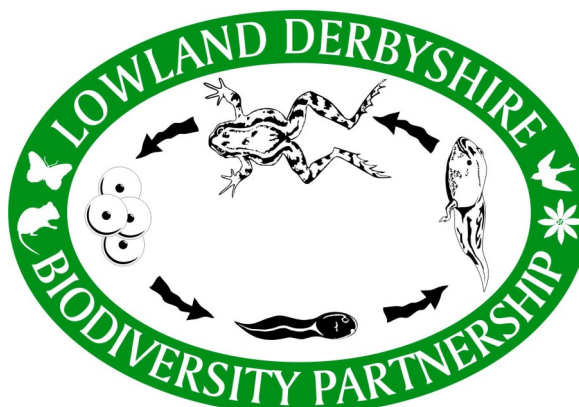
Magnesian Limestone Area Action Plan

Lowland Derbyshire LBAP



Limestone gorge at Creswell Crags. Credit: Derbyshire County Council

Prepared by the Lowland Derbyshire Biodiversity Partnership



This document is part of the Lowland Biodiversity Action Plan 2011-2020

Magnesian Limestone Area

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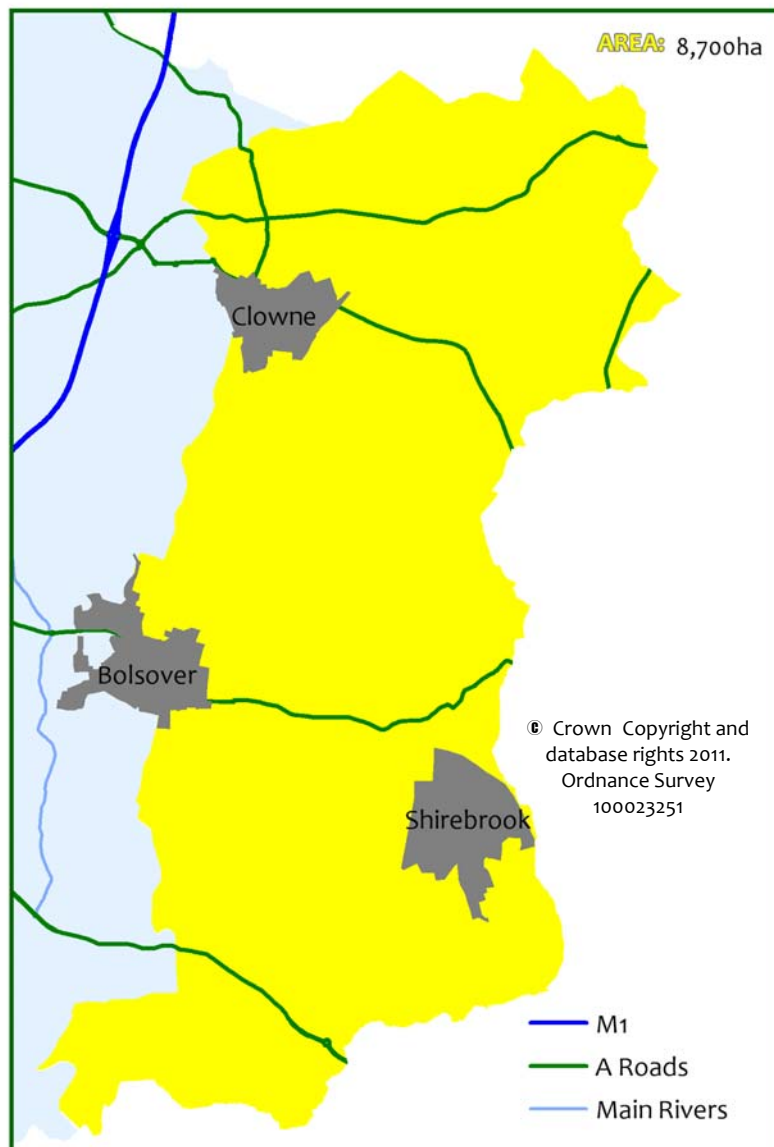
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1. Magnesian Limestone Area - ACTION PLAN -



Map of Magnesian Limestone Action Area

For further detail see Maps section

1.1 Area Description:

The Magnesian Limestone area is a gently rolling plateau dissected by narrow river valleys and rocky gorges. The landscape is characterised by large arable fields enclosed by predominantly hawthorn hedgerows. Small fragments of unimproved limestone grassland remain in areas least suitable for cultivation. Mixed-species hedgerows are associated with historic boundaries and green lanes. There is some very large woodland, often on ancient woodland sites as well as younger plantations associated with the reclamation of former colliery tips. Caves and rock shelters also occur across the area, the best known being Creswell Crags.

The area includes two Sites of Special Scientific Interest (SSSIs) and parts of two further SSSIs, one Local Nature Reserve, 12 RIGS, 47 Local Wildlife Sites and a number of potential Local Wildlife Sites.

The Magnesian Limestone area comprises two Derbyshire Landscape Character Types:

- Limestone Farmlands
- Limestone Gorges

Use the Derbyshire County Council online mapping system to view Landscape Character Types within this Lowland Derbyshire LBAP area. www.derbyshire.gov.uk/maps

This Action Area includes the settlements of Whitwell, Clowne, Creswell, Bolsover, Shirebrook and Pleasley

1.2 Vision

A managed and connected landscape where a network of hedgerows and associated field margins link fragments of calcareous grassland, woodland and other semi-natural habitats.

1.3 The Challenges and Opportunities

This Action Area is the only part of the Lowland Derbyshire LBAP area where magnesian limestone grassland can be found. It makes up 63% of the overall lowland calcareous grassland resource. What remains is fragmented and outside of the agri-environmental schemes, whilst main partners' ownership is largely unmanaged. Opportunities for expansion, restoration and management are limited to sites with suitable soils, but Greenway development and restoration work at Whitwell do provide significant opportunities.

This area is predominately an agricultural landscape, dominated by arable fields which are mostly separated by over-managed, gappy hedgerows. These are poorly connected because many have been lost as fields have been expanded, and there is considerable opportunity for reconnections to be made. Associated with this, the area has experienced a gradual decline in its farmland bird populations. There is a significant opportunity to help reduce this decline by encouraging landowners to include arable field margin options in Entry Level Scheme applications. Coverage of Entry Level Scheme in the area is reasonable, but there are some significant gaps where take-up of the scheme is poor. Use of living bird tables outside Entry Level Schemes and Higher Level Schemes is an opportunity.

Landownership within the area is dominated by a handful of owners, mainly Chatsworth, Welbeck and National Trust estates. Tenant farmers are supported when applying for agri-environmental schemes. A number of biodiversity-related projects in this area will contribute towards the achievements of the Targets and with the engagement of local people in the landscape.

This area has had a number of large-scale reclamation and habitat creation schemes, associated with mineral extraction. Habitat creation on that scale is now limited to land associated with Whitwell and Bolsover Moor quarry. Whitwell Quarry has current planning permission until 2025, but there is likely to be some restoration within this LBAP plan period. Opportunities exist within the development of Steetley Quarry to protect priority habitats as well as restore and create others.

A small part of this Action Area is included within the Sherwood Higher Level Stewardship targeting area. This area also falls within the target area for the Forestry Commission's woodland bird supplement for the England Woodland Grant Scheme (EWGS) and, although the majority of the large estate woodlands are already under an existing EWGS, scope still exists to enhance the restoration work in these sites for woodland birds as well as returning the canopy to a native broad-leaved mixture.

This area of the LBAP area is very important for farmland birds. It is highlighted, under the national **Bird Conservation Targeting Project** as a target area for corn bunting, grey partridge, lapwing, turtle dove, tree sparrow and yellow wagtail. The Magnesian Limestone area is one of the last places in Derbyshire where turtle doves and corn buntings have been recorded.

This Action Area includes 47 **Local Wildlife Sites**, only seven of which are in 'favourable' or 'recovering' condition. The rest are mostly in an 'unfavourable' or 'unknown' condition. Unmanaged grassland and the presence of non-native invasive species in woodlands are the main causes. See section 1.3.3 for a list of key sites in the Magnesian Limestone area.

1.3.1 Existing initiatives and projects

There are a number of projects and initiatives which are working in this area. **The Bolsover Countryside Partnership**, hosted by Derbyshire County Council works throughout Bolsover District with a number of partners to deliver conservation, access and education projects.

The Limestone Journeys Project, is a HLF funded project to deliver conservation and heritage programmes in the area between 2011- 2016. The project boundary almost exactly matches the Action Area boundary.

The RSPB's **Lowland Derbyshire and Nottinghamshire farmland bird project** aims to work with landowners to submit Entry Level and Higher Level Stewardship applications to benefit farmland birds.

The aim of the National Trust's **Poulter Catchment Project**, which includes a small part of this area, is to improve the quality of the water bodies at Clumber Park in Nottinghamshire by carrying out catchment sensitive works to enhance riverine habitats, reduce flooding and retain soil on the land.

The **Bolsover Greenprint** is a mini-biodiversity action plan for the District of Bolsover. It has actions and targets relating to the entire District, only part of which lies within this Action Area.

1.3.2 Main landowning bodies

There are relatively few landowners within the area. The majority of the farmland is owned by Chatsworth and Welbeck estates, which they tenant out. They also own significant woodland sites. Major current mineral extraction sites are owned by Lafarge and Tarmac. The National Trust has an estate, which is larger than just Hardwick Park. Derbyshire County Council owns and manages a number of large former reclamation sites and the trails network. The Forestry Commission manages two very large woodlands, Pleasley Park and Whitwell Wood.

1.3.3 Key Sites

The key sites in Magnesian Limestone Action Area are:

- **SSSIs:** Creswell Crags SSSI, Hollinhill and Markland Grips SSSI
- **LNRs:** Pleasley Pit Country Park LNR, Rowthorne Trail LNR
- **Others:** Bolsover Moor Quarry, Hardwick Hall, Pleasley Park and Vale, Phoenix Trails network, Poulter Country Park, Scarcliffe Park, Steetley Quarry, Whitwell Quarry, Whitwell Wood and Wollen Meadow.



Pleasley Pit Country Park LNR.
Credit: Debbie Alston

1.4 KEY ACTIONS for the Magnesian Limestone area.

1. The **primary habitat objective** within the area is the maintenance, restoration and expansion of calcareous grassland, woodland and arable habitats to achieve targets in Table 1.1.
2. The **secondary objective** is to increase connectivity of semi-natural habitats to create larger habitat complexes using priority habitats, such as hedgerows wherever possible. To achieve this will require the creation of completely new habitats to link and extend existing networks.
3. Target renewing Entry Level Stewardship agreement holders to include appropriate actions for farmland birds.
4. Research and implement the creation of a white-clawed crayfish ark site.

Full targets for all Priority Habitats and Species are listed in Tables 1.1 and 1.2
All actions listed in the separate **Generic Action Plan** also apply to this area.

1.5 KEY TARGETS for the Magnesian Limestone area.

1.5.1 Targets for UK BAP PRIORITY HABITATS

Table 1.1 below lists the specific habitat targets for the Magnesian Limestone area. The requirements of UK BAP reporting mean that our own LBAP targets need to be presented as cumulative figures. The meaning of each column is explained below the table. See Maps section for the distribution of primary habitat features within this Action Area.

UK BAP Priority Habitat	(1) Current Extent at 2011 (i.e. Maintenance* Target to 2020)	Targets for 2011-2020		
		(2) Manage*	(3) Restore*	(4) Expand*
Primary feature:				
Lowland mixed deciduous woodland	900 ha	800 ha	n/a	30 ha
Lowland calcareous grassland	31 ha	25 ha	35 ha	20 ha
Hedgerows	unknown	An additional 10km	n/a	10 km
Field margins	unknown	60 ha [#]		
Secondary feature:				
Wood-pastures and Parkland	2 sites	2 sites	1 site	n/a
Lowland meadow	4 ha	4 ha	50 ha	2 ha
Localised feature:				
Traditional orchard	17 sites	5 sites	n/a	2 sites
Ponds	>90 ponds	40 ponds	5 ponds	5 ponds
Mire and Fen	3.1 ha	3.1	n/a	n/a
Open mosaic habitats	Unknown [∞]			

Table 1.1 Targets for the Magnesian Limestone Action Area 2011-2020.

*Table explanation:

Terminology and measurements are the same as those used in the UK Biodiversity Action Plan (UK BAP). These are:

- (1) **‘Maintenance’** – this is the current 2011 resource of each Priority Habitat, irrespective of condition and management that we must, *at the very least*, keep and carry forward into the next plan period after 2020. (i.e. no net loss.)
- (2) **‘Manage’** – The amount of Priority Habitat in (1) that we want to be under appropriate management to maintain in ‘favourable’ condition. This is a cumulative target, continuing on from the previous plan period.
- (3) **‘Restore’** – Habitat which is not in a ‘favourable’ condition, but which is under restorative management to bring it up to that condition. This is a cumulative target, continuing on from the previous plan period.
- (4) **‘Expand’** – New habitat created from scratch. This could be on a new site or an extension to an existing one. The target is for this Plan Period, though some habitats, such as woodland, take far longer to fully develop.

Notes to accompany Table 1.1

Grassland habitat creation should also be targeted where the underlying ground conditions are suitable and it links existing habitats.

Woodland creation should be appropriate and in accordance with the recommendations in the **Landscape Character of Derbyshire**, linking existing sites wherever possible.

Hedgerow restoration and creation work should be targeted along existing networks such as main roads, historic boundaries and green lanes where they are fragmented.

Due to the free-draining nature of this area, wetland creation is not suitable everywhere, so **pond** creation is likely to be associated with suburban situations and areas such as schools.

For **field margins** it is not possible to set separate targets for management, restoration or expansion. A single overall target for simply increasing this resource is provided. Figures can only be based on Entry Level Stewardship monitoring. Further habitat may also be provided through Living Bird Table initiatives

∞ **Open mosaic habitats** the distribution of this habitat is not well understood at the start of this Plan Period (see Generic Action Plan). Its presence is, however, important in this area. It should be maintained in situ wherever possible, especially where it contributes to a wider network linking key habitats.

1.5.2 Targets for UK BAP PRIORITY SPECIES

There are 76 UK BAP Priority Species recorded within the Magnesian Limestone Action Area since 2000. The distribution and status of many of these species is not currently well known, and consequently it is not possible to set meaningful targets for them. However, there are other species about which we do know enough to be able to set targets, monitor and assess their success. These are shown below in Table 1.2

The full list of UK BAP Species for the Magnesian Limestone area is given in Table 1.3 (see Section 1.6.2)

UK BAP Priority Species	Range targets to 2020 (1km ²)	Range expansion targets 2011-2020 (1km ²)	Method of expansion
Dingy Skipper	10	1	Appropriate habitat enhancement
Flamingo moss	1	n/a	n/a
Great crested newt	3	n/a	n/a
Grizzled Skipper	2	1	Appropriate habitat enhancement
Water Vole	5	n/a	n/a
White-clawed crayfish	0	1	Creation of 1 ark site
White- letter Hairstreak	20	2	Appropriate habitat enhancement

Table 1.2 Targets for UK BAP Species within the Magnesian Limestone Action Area.

Dingy skippers are relatively common in this area and have been recorded in ten grid squares (10 x 1 km²) since 2000. These records are almost exclusively confined to short and developing grassland on former reclamation sites. Work has been carried out by Butterfly Conservation to enhance these sites to create optimal conditions for these butterflies. **Target:** Increase range by one 1 km² by appropriate habitat enhancement.

Flamingo moss has been recorded in just one grid square (1 x 1 km²). This population, at Steetley Quarry, is potentially under threat from development. **Target:** Maintain range by appropriate habitat protection.

Great-crested newts have been recorded in three grid squares (3 x 1 km²) since 1990. One, at Steetley Quarry, is potentially under threat from development. **Target:** Maintain range by appropriate habitat protection.

Grizzled skippers have been recorded in two grid squares ($2 \times 1 \text{ km}^2$) since 2000. Both of these have wide expanses of relatively open calcareous grassland and are subject to site alterations over the plan period. **Target:** Maintain range by appropriate habitat protection.

Water voles have been recorded in five grid squares ($5 \times 1 \text{ km}^2$) since 2000. They are severely restricted in this area as suitable waterbodies are limited because of the porous nature of the bedrock. Water voles have been recorded at Steetley Quarry and at Pebley Pond, as well as along the stream that flows into Creswell Craggs

Target: Maintain range by appropriate habitat protection.

White-clawed crayfish have not yet been recorded in the Magnesian Limestone area. This offers an opportunity to identify a suitable site for the development of an ark site which is remote and safe from disease contamination by existing crayfish populations. **Target:** Create one ark site.

White-letter hairstreak butterflies have been recorded in 20 grid squares ($20 \times 1 \text{ km}^2$) across the area since 2000, including at Scarcliffe Park, Whitwell Wood and Pleasley Pit. Like other areas in the country, it appears these populations may be in decline, although some work has taken place to plant suitable disease-free species of elms. **Target:** Increase range by two 1 km^2



White-letter Hairstreak
Credit: Alan Barns

1.6 Current Biodiversity Resources

This list of resources within the Magnesian Limestone area has been divided into three parts:

- 1.6.1. UK BAP Priority Habitat Resources
- 1.6.2 UK BAP Priority Species Resources
- 1.6.3 Organisational and Human Resources

1.6.1 UK BAP Priority Habitat Resources

The figures below show the total amount of each Priority Habitat known to exist in the Magnesian Limestone at the start of this Plan Period in 2011, with figures for sub-priority and newly created habitats where known. Brief notes on their distribution within the area then follow.



Total area of the Magnesian Limestone region = **8,713 ha**
Total area of Priority biodiversity resource at start of Plan Period = **1,286 ha**
Percentage of Action Area containing this biodiversity resource = **15%**

Lowland Mixed Deciduous Woodland:

Ancient Semi-Natural Woodland =	104 ha
Plantation on Ancient Woodland Sites =	468 ha
Secondary =	151 ha
Plantation =	174 ha

Wet Woodland: 6 ha

Wood pasture and parkland: (2 sites) 316 ha

Traditional orchard: (17 sites) 4 ha

Lowland Calcareous Grassland: 31 ha
(Plus 26 ha of newly created and 36 ha sub-priority)

Lowland Meadow: 4 ha
(Plus 2.1 ha of newly created and 60 ha of sub-priority)

Rush- pasture: 14 ha

Wetland:

Ponds: > 90 ponds

Lakes: 3 10 ha

Fen: 3 ha

Mire: 0.1 ha

Reedbed: 1 ha

Location of Priority Habitats in the Landscape:

Primary features:

Lowland mixed deciduous woodland: especially ancient woodland is mostly found in large sites such as Scarcliffe Park and Whitwell Wood

Hedgerows and field margins: widespread across the area

Lowland calcareous grassland: fragmented, with concentrations at Pleasley and Creswell

Secondary features:

Wood-pasture and parkland: associated with historic properties at Hardwick Hall and Barlborough Hall

Veteran trees: widespread, outside parklands mostly associated with hedgerows and former hedgerows

Neutral grassland: scattered and associated with deeper soils than calcareous grassland

Localised features:

Wet woodland and floodplain grazing marsh: associated with the limestone gorges

Standing open water, ponds: widespread across the area

Swamp and tall herb fen and mire: very localised in limestone gorges and subsidence flashes

Open mosaic habitats: occurs in areas of brownfield land. Known within Steetley Quarry

Note: The terms Primary, Secondary or Localised feature used above are synonymous with 'Primary Habitat' etc. used in the Landscape Character of Derbyshire (2003) see www.derbyshire.gov.uk/landscape. These describe how noticeable and distinctive each habitat is within the landscape itself. Only Primary Features are shown in the detailed map of each Action Area in the Maps section.



Creswell Craggs and Pond.
Credit: Debbie Alston

1.6.2 UK BAP Priority Species Resources

Group	English Name
Moss	Flamingo moss
Vascular Plant	See footnote
Amphibian	Great crested newt
Amphibian	Common toad
Reptile	Common lizard
Reptile	Grass snake
Reptile	Slow worm
Bird	Bullfinch
Bird	Corn bunting
Bird	Cuckoo
Bird	Curlew
Bird	Dunnock
Bird	Grasshopper warbler
Bird	Grey partridge
Bird	Herring Gull (not breeding)
Bird	House sparrow
Bird	Lapwing
Bird	Lesser Redpoll
Bird	Lesser spotted woodpecker
Bird	Linnet
Bird	Marsh tit
Bird	Reed bunting
Bird	Skylark
Bird	Song thrush
Bird	Spotted flycatcher
Bird	Starling
Bird	Tree pipit
Bird	Tree sparrow
Bird	Turtle dove
Bird	Twite (not breeding)
Bird	Willow tit
Bird	Yellowhammer
Bird	Yellow wagtail
Mammal	Brown hare
Mammal	Brown long-eared bat
Mammal	Harvest mouse
Mammal	Hedgehog
Mammal	Noctule
Mammal	Soprano pipistrelle

Group	English Name
Mammal	Water vole
Butterfly	Dingy skipper
Butterfly	Grizzled skipper
Butterfly	Small heath
Butterfly	Wall
Butterfly	White letter hairstreak
Moth	Beaded chestnut
Moth	Blood-vein
Moth	Brindled beauty
Moth	Broom moth
Moth	Brown-spot pinion
Moth	Buff ermine
Moth	Centre-barred sallow
Moth	Deep-brown dart
Moth	Dot moth
Moth	Dusky brocade
Moth	Garden tiger
Moth	Ghost moth
Moth	Grass rivulet
Moth	Green-brindled crescent
Moth	Grey dagger
Moth	Knot grass
Moth	Latticed heath
Moth	Mouse moth
Moth	Oak hook-tip
Moth	Powdered quaker
Moth	Rosy minor
Moth	Rosy rustic
Moth	Shaded broad-bar
Moth	Shoulder-striped wainscot
Moth	Small phoenix
Moth	Small square-spot
Moth	The cinnabar
Moth	The rustic
Moth	The sallow
Moth	The spinach
Moth	The streak
Moth	White ermine

Table 1.3 UK BAP Priority Species known to be present in the Magnesian Limestone area since 2000 (76 species)

Note: Burnt tip orchid was recorded from within this Action Area in 1994.

1.6.3 Organisational and Human Resources

Below is a list of organisations that are key to delivering the actions and targets in the Magnesian Limestone area. Reference should also be made to the table in the Generic Action Plan.

Statutory Agencies

Environment Agency *
Forestry Commission *
Natural England *

Voluntary organisations

Bolsover Countryside Partnership*
BTCV *
Creswell Heritage Trust
Derbyshire Wildlife Trust *
FWAG *
RSPB *
Groundwork Creswell, Ashfield and Mansfield *

Local and Community Groups

Clowne Wildlife Group
Elmton and Creswell Wildlife Group
Friends of Bolsover Parks *
Pleasley Pit Nature Study Group *
Whitwell Wood Natural History Group

Local Authorities (including Town and Parish Councils)

Derbyshire County Council *
Bolsover District Council *

Ault Hucknall Parish
Barlborough Parish *
Clowne Parish
Elmton with Creswell Parish
Glapwell Parish
Old Bolsover Town Council
Pleasley Parish
Shirebrook Town Council
Whitwell Parish

Other Landowning bodies

Chatsworth Estate
Land Restoration Trust
Lafarge
National Trust*
Private landowners and farmers
Sitwell Estate
Tarmac
Welbeck Estate
Homeowners (for UK BAP species in gardens)

* indicates Lowland Derbyshire Biodiversity Partnership member.
If your group or organisation would like to join the Partnership, go to
www.derbyshirebiodiversity.org.uk



Pond restoration
Credit: Bolsover Woodland Enterprise

1.7 Achievements to Date in Magnesian Limestone area

Figures are based on Nov 2011 data and rounded to nearest hectare

Woodland



720 ha (90% of the target) of lowland mixed deciduous woodland was considered to be under management (in an agri-environmental scheme or assessed as favourable or recovering condition)

Lowland Calcareous Grassland



18 ha (72% of the target) of priority lowland calcareous grassland was considered to be under management (in an agri-environmental scheme or assessed as favourable or recovering condition)



28 ha (80% of the target) of sub-priority lowland calcareous grassland was considered to be under restoration (in an agri-environmental scheme or assessed as 'favourable' or 'recovering' condition), looking to bring the habitat condition up to priority status.

Wood pasture and parkland



2 wood-pasture and parkland sites (100% of the area resource) were considered to be under management (in an agri-environmental scheme or assessed as favourable or recovering condition)

Lowland Meadow



3.83 ha (95% of the target) of priority lowland meadow was considered to be under management (in an agri-environmental scheme or assessed as favourable or recovering condition)



45ha (90% of the target) of sub-priority lowland meadow was considered to be under restoration (in an agri-environmental scheme or assessed as 'favourable' or 'recovering' condition), looking to bring the habitat condition up to priority status.

Ponds



12 ponds (30% of the target) are currently under management

Current Agri-environment Schemes:

- 5 Higher Level Stewardship schemes in the area
- 2 Countryside Stewardship schemes in the area

Magnesian Limestone Action Area - Priority Habitat Map

Woodland

Lowland calcareous grassland

Only those Priority Habitats which are seen as primary landscape features are shown here. See Area Action Plan for details.

