
Space for Wildlife

Leicester, Leicestershire and Rutland
Biodiversity Action Plan

2016 – 2026

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Revision by S Timms, Leicestershire and Rutland Environmental Records Centre

Space for Wildlife

2016 – 2026

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1. Introduction and scope

1.1 Leicestershire and Rutland Biodiversity Action Plan – previous versions

Biodiversity is the variety of life in all its forms and the habitats where it occurs.

In 1992, at the 'Earth Summit' in Rio de Janeiro, the UK Government signed the Biodiversity Convention. This was followed up by the publication of *Biodiversity: The UK Action Plan*, in 1994, with the stated goal 'to conserve and enhance biological diversity in the UK . . .' One way this is to be achieved is through Local Biodiversity Action Plans, which aim to focus resources to conserve and enhance biodiversity by means of local partnerships, taking account of national and local priorities.

To this end surveys of the local habitat resource (Bowen & Morris 1996) and key species (Lott 1997) in Leicestershire and Rutland, were published. A working group of representatives from 19 organisations, led by Leicestershire and Rutland Wildlife Trust, used this information to draw up the local plan, '*Biodiversity Challenge: An Action Plan for Leicester, Leicestershire and Rutland*', which was produced in 1998.

In essence the Leicester, Leicestershire and Rutland Biodiversity Action Plan (LLRBAP) was modelled on the National plan but concentrated on species and habitats of local conservation concern. There were 17 Habitat Action Plans and 14 Species Action Plans. Lowland Wood-pasture and Parkland was a later addition. When the plan was revised in 2005, Urban Habitats (Leicester) and Dingy and Grizzled Skipper were added. In addition the numerous targets and actions detailed in the original plan were considerably reduced in number and simplified.

In 2010, the plan had a major revision, co-ordinated by Andy Lear of Leicestershire and Rutland Wildlife Trust. The scope was widened to include habitat creation in the wider countryside. This is where most of our wildlife is found and it is where many common species (farmland birds, butterflies and moths being the best documented) are in decline. The original format of the Habitat Action Plans was changed to Priority Habitat Summaries. This document ('*Space for Wildlife: Leicester, Leicestershire and Rutland Biodiversity Action Plan, 2010-2015*') is the basis of this current document.

1.2 Summary of the main revisions to Changes to ‘Space for Wildlife: Leicester, Leicestershire and Rutland Biodiversity Action Plan’

All the 19 Priority Habitat Summaries have been revised to include opportunities/conservation measures, an explanation of the link to Local Wildlife Site criteria, and to update the status of the habitat, where known. A further Priority Habitat Summary, for Rivers, is in preparation.

A summary of the current extent of habitats has been added, including an assessment of the current trend in quality and extent for each, where evidence exists. (see Chapter 2, Table 1.3 and Appendix 1). A further Habitat Action Plan, for Rivers, is in preparation.

The list of core LBAB species remains, but the definition of an LBAP species has been widened to include species listed in Local Red Data Books or identified as ‘rare’ in a County or VC55 checklist. (See Chapter 5). A new Species Action Plan, for **Swifts, Swallows and House Martins**, has been added.

The rest of the document is largely unaltered, apart from minor updates.

1.3 Wildlife habitats – the current resource

Habitats are the places where wildlife lives. Habitats differ in the type and quantity of different wildlife species they can support. Intensively managed farmland is poor for wildlife whilst land which is less intensively managed with little or no applications of chemical fertiliser, pesticides and herbicides is much richer in wildlife.

In Leicestershire and Rutland where more than 80% of the land is farmed, good habitats for wildlife are now few and far between and much of our wildlife is being squeezed out and continues to decline.

This is a reflection of the national picture where many of the UK Biodiversity Indicators show a long term decline over the period 1970 to 2007 (*UK Biodiversity Indicators in Your Pocket 2009*, DEFRA 2009).

Leicestershire and Rutland are amongst the poorest counties in the UK for sites of recognised nature conservation value. The very best sites (Sites of Special Scientific Interest, SSSI) represent only about 2% of the land area (ca. 1.3% for Leicestershire). The Key Facts summary (Table 1.1) brings together statistics on geography, demographics, land-use and wildlife site designation in Leicester, Leicestershire and Rutland.

The resource of nationally important habitats is even smaller: for instance there are:

- Less than 200ha of calcareous grassland, of which 28ha is on SSSI, and much of which is in decline and of poor quality;
- Less than 500ha of acid grassland, heath grassland and heath, of which 34 ha on SSSI;
- 0.3 ha wet heath;
- c. 500ha of species-rich neutral grassland of national UKBAP priority habitat quality.

Table 1.2 summarises the relationships between local and national BAP habitat in Leicester, Leicestershire and Rutland. Table 1.3 summarises the estimated extent of national and local BAP priority habitats in Leicester, Leicestershire and Rutland.

These important or BAP priority habitats comprise only a very small proportion of the area of Leicestershire and Rutland. In addition, many habitats are clustered in specific areas (for instance Charnwood Forest, East Rutland) with large parts of the two counties containing little or no priority habitat.

There is little evidence that habitats of national UKBAP quality have been created in our areas; however, the LLRBAP has had success in promoting the creation of local habitats. Many of the best examples of local conservation and habitat creation schemes have generated new habitats which fall outside those defined in the UKBAP and yet these have had a significant positive impact on local wildlife. Good examples are:

- new nature reserves in the Soar Valley at Cossington Meadows and Wanlip Meadows
- major wetland creation at Rutland Water
- numerous smaller wetlands created as part of flood prevention and drainage schemes
- heathland creation at Bagworth and on Bardon Hill
- extensive tree planting and wetland creation in the National Forest.

1.4 Scope of 'Space for Wildlife'

If the LLRBAP was to focus solely on high quality national priority habitats, it would fail to address the poor state of wildlife in the wider countryside and would ignore some of the best local habitat creation schemes.

'Space for Wildlife' has three components:

1. To promote the restoration, management and creation of BAP Priority Habitats
2. To promote the creation of new wildlife habitat in the wider countryside
3. To survey, monitor and promote favourable management of existing good sites through the Local Wildlife Sites system.

In essence Space for Wildlife goes back to the broader intentions of the 1992 Biodiversity Convention - to halt the loss of biodiversity – by broadening the overall scope of the LLRBAP to also address wildlife conservation in the wider countryside.

By focussing on more than just the narrowly prescribed habitats of the UK BAP the intention is to promote a new more flexible approach to nature conservation and areas managed for wildlife in Leicestershire and Rutland which is relevant and applicable to all parts of the local landscape.

Appended to the document are the revised Priority Habitat Summaries.

Table 1.1: Leicestershire and Rutland – key facts

<p>Area: 2553 sq.km (986 sq.miles)</p> <p>Distance between boundaries: 72 km (44 miles) N-S; 93 km (57 miles) E-W</p> <p>Altitude: mostly between 61 m and 183 m (200-600 ft)</p> <p>Highest point: Bardon Hill 278 m (912 ft)</p> <p>Lowest point: confluence of Rivers Soar and Trent at 27 m (90 ft)</p> <p>Human population: In 2011 the combined population was 1017967, of which 329,839 live in Leicester (source: LeicesterShire Statistics and Research http://www.lsr-online.org/)</p> <p>Land use:</p> <ul style="list-style-type: none"> - Farming – 84% of L&R is farmland, 82% of which is Grade 3 quality; 52% of farmland in 1992 grew cereals, oil seed rape etc - Woodland – 4% of L&R is covered in woodland, 2% of the counties is ancient woodland, with c 50% of that semi-natural - Urban – 6% was urban in 1992; between 1945 and 1990 the area of urban land doubled; W.Leics is much more developed than E.Leics & Rutland - Mineral extraction – Leics, Derbys & Somerset are the 3 biggest mineral producing counties in Britain <p>Sites of Special Scientific Interest: 95 (81 biological) covering 6438 ha (c. 2.5% of counties, national average is c.6%)</p> <p>Nature Conservation Review sites: Cribb's Meadow; Leighfield Forest; Muston Meadows; River Eye; Rutland Water; Swithland Wood</p> <p>Geological Conservation Review sites: Charnwood Lodge + others</p> <p>Special Areas of Conservation: 1 (River Mease)</p> <p>Special Protection Areas: 1 (Rutland Water)</p> <p>Ramsar Sites: 1 (Rutland Water)</p> <p>Environmentally Sensitive Areas: None</p> <p>Areas of Outstanding Natural Beauty: None</p> <p>National Parks: None.</p> <p>Community Forests etc: 1 (The National Forest).</p> <p>National Nature Reserves: 3 [Charnwood Lodge, Cribb's Meadow (LRWT); Muston Meadows (NE)].</p> <p>Local Nature Reserves: 22</p> <p>Other nature reserves: LRWT has 33 reserves covering nearly 3000 acres (1214hectates). 20 are SSSIs; Seaton Meadows SSSI is a Plantlife reserve. The Woodland Trust manages c. 20 sites covering c. 315 ha.</p> <p>Local Wildlife Sites: 1167 notified sites, 1108 candidate sites and 1013 potential sites, covering in total 12,350 hectares, or c.4.8% of the area.</p> <p>Main reasons for decline in biodiversity:</p> <ul style="list-style-type: none"> - Modern farming methods - Development (housing, roads, mineral extraction) - Recreational activities - Drainage schemes - Tidying up and destruction of rough ground and 'brown-field' land <p><i>Michael Jeeves 2010, updated by S Timms, Dec 2016 (highlighted)</i></p>
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Table 1.2 Correspondence of LL&R BAP priority habitats to national Priority habitats

	LLRBAP Habitat	Equivalent UK Broad habitat	UK BAP habitat	Notes
01	Broadleaved woodland	Broadleaved Mixed and Yew Woodland	Lowland Mixed Deciduous Woodland	Exact equivalence between local and national habitat
02	Wet woodland	Broadleaved Mixed and Yew Woodland	Wet Woodland	Exact equivalence between local and national habitat
03	Lowland wood-pasture and parkland	Broadleaved Mixed and Yew Woodland	Wood-pasture and parkland	Exact equivalence between local and national habitat
04	Hedgerows	Boundary & Linear Features	Hedgerows	Partial equivalence. The local plan covers more than the ancient and species rich hedgerows of the national plan
05	Mature trees			Local habitat with no national equivalent
06	Eutrophic standing water	Standing Open Water and Canals	1.Eutrophic Standing Waters 2. Ponds	Local habitat combining two UK BAP habitats
07	Mesotrophic lakes	Standing Open Water and Canals	Mesotrophic Lakes	Partial equivalence between local and national habitat. The local habitat referred to artificial water bodies (reservoirs). This habitat no longer exists locally as all remaining mesotrophic water bodies have been severely affected by nutrient enrichment (eutrophication)
08	Floodplain wetland			Local habitat with no national equivalent. Covers a range of new and pre-existing wetland habitats in river floodplains
09	Reedbed	Fen, Marsh, Swamp	Reedbeds	Exact equivalence between local and national habitat
10	Fast-flowing streams			No national equivalent. Covers both nutrient poor and enriched streams with significant fauna and flora assemblages
11	<i>Sphagnum</i> ponds			No national equivalent – acidic ponds with locally important fauna and flora assemblages
12	Springs and flushes			No national equivalent although related to Fen, Marsh and Swamp broad habitat
13	Neutral grassland	Neutral Grassland	Lowland Meadows	Equivalence between local and national habitat – however local habitat also includes lowland pastures

	LLRBAP Habitat	Equivalent UK Broad habitat	UK BAP habitat	Notes
14	Heath-grassland	Acid Grassland	Lowland Dry Acid Grassland	Partial equivalence. The local heath-grassland is a mix of dry acid grassland, wet acid grassland and acid grassland (wet or dry) with scattered ericaceous shrubs. True heathland with vegetation dominated by ericaceous shrubs is virtually non-existent in Leicestershire and Rutland - this probably reflects the historic situation.
15	Calcareous grassland	Calcareous grassland	Lowland calcareous grassland	Exact equivalence between local and national habitat
16	Roadside verges			No national equivalent habitat, although roadside verges encompass a number of habitat types including, calcareous and neutral grassland
17	Field margins	Arable & Horticultural	Arable Field Margins	Exact equivalence between local and national habitat
18	Rocks and built structures			No national equivalent. The local habitat covers both natural and man-made structures of importance for lichens and bryophytes
19	Urban habitat			No national equivalent. A wide ranging plan covering all aspects of wildlife and biodiversity in the city
20	Rivers (<i>in preparation</i>)	Rivers and streams	Rivers	List of proposed UK Bap river reaches in L, L&R could be used as a basis for local BAP register.

Table 1.3: Summary of current extent of habitats and trends (2016)

	Habitat	National/Local BAP	Inventory	Distribution map	No./area/length known sites	Estimated extent	Trend		Comments
01	Broad-leaved woodland (all) Broad-leaved woodland (ASNW/PAWS)	N	N	Y	9793 ha	12,300 ha	Increasing	++	Mostly National Forest, but increase across all area. Minor loss ASNW countered by improvements to PAWS
			Y		3025 ha	3025 ha	Stable	0	
02	Wet woodland (all, of LWS standard) Wet woodland (ASNW/PAWS)	N	N	N	60 sites	c. 300 ha	Increasing	+	Associated with floodplain wetland
					30 ha				
03	Lowland wood-pasture and parkland	N	Y	Y	3883 ha	4000 ha	Stable?	?	Very little survey data
04	Hedgerows (all) Species-rich hedgerows (LWS standard)	N	N	N	?	16800 km	Stable	0	Losses are minor. Overall estimate based on sample; WS hedges small proportion of potential WS
			Y	Y	180 km	?			
05	Mature trees	L	Y	Y	2080 trees	20,000 trees	Decreasing	--	Small proportion identified as WS. Irreplaceable. Trees in wider countryside unprotected
06	Eutrophic standing water (ponds, lakes, canals, reservoirs)	N	N	Y	c.? + c.125km	?	Increasing	+	Map of larger sites only. Maps/inventories do not include field ponds
07	Mesotrophic lakes	N	Y	Y	0	0	Lost	X	All 3 sites now believed to be eutrophic (170 ha)
08	Floodplain wetland	L	Y	Y	107 ha	?	Increasing	++	Inventory is not complete
09	Reedbed	N	Y	Y	c. 30ha	?	Increasing	+	Associated with floodplain wetland
10	Fast-flowing streams	L	N	N	?	?	?	?	Extent likely to be stable, but quality unknown
11	<i>Sphagnum</i> ponds	L	Y	N	<50 ponds	<50 ponds	Decreasing	--	Inventory well out of date; but sites are known to have been recently lost
12	Springs and flushes	L	N	N	29 sites	c.500	?	?	List of representative sites only

	Habitat	National/Local BAP	Inventory	Distribution map	No./area/length known sites	Estimated extent	Trend		Comments
13	Neutral grassland (UKBAP quality)	N	Y	Y	2550ha	c.500 ha	Decreasing	--	Serious decline in grassland outside protected sites. Known site extent mainly based on 2000 - 2012 data
	Neutral grassland (LBAP /LWS quality)	L				c.2000 ha			
14	Heath grasslands	N	Y	Y	?	<500 ha	Decreasing	--	Mainly Charnwood Forest, and on SSSIs
15	Calcareous grassland	N	N	Y	c.60 km + c.100 ha	<200 ha	Decreasing	-	Mainly road verges and quarries in Rutland
16	Roadside verges (of LWS standard)	L	Y	Y	104 km	100 km	Decreasing	--	Quality decreasing. Overlap with grassland HAPs
17	Field margins	N	N	N	?	?	?	?	No data on extent of overall resource, or of LWS quality
18	Rocks and built structures	L	N	N	?	?	?	?	Very little survey information
19	Urban habitats	L	n/a		n/a	n/a	n/a	n/a	Range of habitats, covered by other plans
20	<i>Rivers (in preparation)</i>								

Information compiled by LRERC, January 2016

2. Priority BAP Habitats

Lead partners:

Leicestershire County Council (Leicestershire and Rutland Environmental Resources Centre - LRERC)
Leicester City Council

Aims:

- Create and maintain inventories of UK and local Priority Habitats listed in the Leicester, Leicestershire and Rutland Biodiversity Action Plan
- Report on changes in condition and extent of UK BAP Priority Habitats through the UK BAP reporting system
- Report on status of BAP Priority Habitat associated with Local Wildlife Sites as part of statutory responsibilities
- Promote management, restoration and creation of BAP habitat through the planning system and other local actions

Habitats of national importance:

Broadleaved woodland
Calcareous grassland
Eutrophic standing water
Field margins
Heath-grassland
Hedgerows
Lowland wood-pasture and parkland
Mesotrophic lakes
Neutral grassland
Reedbed
Wet woodland
Rivers (*in preparation*)

Habitats of local importance:

Fast-flowing streams
Floodplain wetland
Mature trees
Roadside verges
Rocks and built structures
Sphagnum ponds
Springs and flushes
Urban habitats

Habitat descriptions and action plan objectives are set out in [Appendix 1](#)

3. Promoting the creation of new wildlife habitat in the wider countryside

Lead partner: Leicestershire and Rutland Wildlife Trust

Habitat Creation Plan

Aim:

To increase the area of land managed in a wildlife friendly way in Leicestershire and Rutland

Guidelines for habitat creation

- Create new habitat corresponding to one of three broad categories throughout Leicestershire and Rutland:
 - * Wetland (open water and/or land which has impeded drainage and retains water for part or all of the year or which floods regularly);
 - * Woodland (land covered with trees or scrub – either planted or naturally regenerating);
 - * Open land (land with no or low intensity management with little or no agricultural inputs. Includes unmown rough grassland, regenerating natural vegetation and sown or planted vegetation).
- Create new habitat on intensively managed land to increase habitat diversity.
- Create new habitat on former mineral extraction sites. Minimise intervention to allow these sites to develop new plant communities and species assemblages.
- Create new habitat in areas of current high wildlife value (Charnwood Forest, Soar Valley, Leighfield Forest, Rutland Limestone, Rutland Water) to increase landscape connectivity.
- In areas where historic habitats remain use new habitat creation to buffer or link sites if possible. The nature of the buffering habitat is immaterial provided it does not compromise the wildlife value of the existing habitat.
- Where ecological conditions and resources allow create UK BAP Priority Habitats to buffer and extend existing Priority habitat.
- Provide advice on habitat creation and management.
- Record details of habitat creation projects and maintain on a GIS database.
- Publish examples of good habitat creation schemes in an annual report.
- Investigate the use of remote sensing data such as Land Cover Map 2007 as the basis for a baseline habitat survey of Leicestershire and Rutland and for monitoring change at a landscape scale when repeat surveys become available.

4. Survey, monitor and promote favourable management of existing good sites through the Local Wildlife Site system

Lead partners:

Local Wildlife Sites Panel, Leicestershire County Council (Environmental Resources Centre)

Local Sites Monitoring Plan

Aim

To identify, monitor and promote wildlife friendly management of all existing good wildlife habitat in Leicestershire and Rutland, including Local Wildlife Sites, statutory designated sites and UK BAP Priority Habitats

Actions and outcomes

- No loss of current habitat designated as nationally/internationally important (designations include SSSI, NNR, SPA, Ramsar)
- Ensure all nationally/internationally important sites are in favourable management
- Undertake Phase 1 Habitat Surveys of Leicester, Leicestershire and Rutland
- Maintain and extend the current Local Wildlife Sites system to ensure all sites meeting LWS criteria are identified by:
 - * The Local Record Centre, the Local Wildlife Sites Panel and LRWT working together to promote, co-ordinate and monitor the LWS system
 - * Resurveying all LWS every five/ten years (depending on habitat)
 - * Ensuring all LWS are recognised by the planning system and loss through development is avoided wherever possible
 - * Ensuring LWS are fully recognised by agri-environment and other grant schemes
 - * Adapting the LWS criteria where appropriate to recognise new habitats and species assemblages resulting from changes in land use and climate change
- Promote beneficial management of LWS to maintain existing habitats
- Provide management and grants advice to LWS owners

5. Priority Species and Action Plans

The Leicester, Leicestershire and Rutland Biodiversity Action Plan includes sixteen Species Action Plans. In many instances these are selected because they are species representative of specific habitats or because they are flagship species recognisable by the general public.

Species Action Plans:

- Barn Owl
- Bats
- Black Hairstreak butterfly
- Black Poplar
- Dingy and Grizzled Skipper butterflies
- Dormouse
- Nightingale
- Otter
- Purple Small-reed
- Redstart
- Sand Martin
- Violet Helleborine
- Water vole
- White-clawed Crayfish
- Wood Vetch
- Swifts, Swallows and House Martins

In addition the habitat action plans in the LLRBAP identify characteristic species associated with each of the habitats. The Action Plan species listed above were selected because they are not picked-up fully in any of the habitat action plans.

All the Action Plan species are listed in an Inventory of Key Species, published by Leicestershire Museums Arts and Records Service (LMARS) in 1997 as a supporting document to the LBAP. Nearly 1000 species are listed in this Inventory, so the Action Plan species therefore give an incomplete picture of species conservation priorities in Leicester, Leicestershire and Rutland.

Therefore, the definition of 'Local BAP species' has been widened to include an additional core list of priority species, based on listing in Local Red Data Books or identified as 'rare' in a County or VC55 checklist. The Inventory is now considered to be out-of-date, being 20 years old. Currently, there are up-to-date LRDBs or checklists with status notes for Bryophytes, Vascular Plants, Bats, Amphibians, Reptiles and Fish, Lepidoptera and Birds. Recent Checklists and Atlases are available for many other groups, including Spiders, Ground Beetles (*Carabidae*), Fungi, Bees, Caddis-flies (*Trichoptera*), Dragonflies and Damselflies (*Odonata*) and Land Snails. These are available from the appropriate County Recorders, the Leicestershire Entomological society, or from the Leicestershire and Rutland Environmental Records Centre (LRERC), and references for these and other checklists are in Chapter 10.

There are several benefits from this change in policy towards species:

- More species could be included in standard data-searches by the Environmental Records Centre, which would increase ecology consultants' awareness of species conservation in our area (currently awareness and understanding may be low, especially from consultants from outside our region);
- The presence of a population of a local BAP species is a material consideration in the planning process (see NPPF paragraph 117), and the inclusion of more species on the list would help us defend populations from destruction, as well as making clear policy reasons for conservation;
- 'Local BAP priority species' is a recognised term which would help project planning and grant applications for local species conservation
- It would make clear link between County Recorders' Network priorities, the local BAP and the Local Wildlife Site criteria; a population of local BAP species is one of the criteria for designation of a Local Wildlife site.

Notwithstanding the above, species conservation is best addressed through habitat restoration and creation. Species do not live in isolation; they live in habitats and require functioning ecosystems. If the habitat isn't right the species will decline. Habitat degradation and loss are key drivers of species loss.

The whole thrust of Space for Wildlife, the latest revision of the LLRBAP, is to increase the amount of habitat available for wildlife across the wider countryside irrespective of its exact nature. This will benefit not only BAP species but also a wide variety of other wildlife. It is recognised that some species will continue to decline, with habitat specialists being under particular threat.

6. Access and Biodiversity

There is increasing evidence that providing people with access to natural green space has multiple benefits including improved health and well-being. Natural green space includes any land that is not managed formally and ranges from, for example, areas of scrub and wetland to ancient woodland and meadow. A study by Natural England has proposed the following access standards for households in England:

- no more than 300 metres from their nearest area of accessible natural green space of at least 2 hectares in size
- at least one accessible 20 hectare site within 2 kilometres of home
- one accessible 100 hectare site within 5 kilometres of home
- one accessible 500 hectare site within 10 kilometres of home.

To be accessible the areas should have freely available public access in a greater form than a public right of way crossing the land.

Within Leicester, Leicestershire and Rutland natural green space is mainly represented by Local Nature Reserves, Country Parks, Wildlife Trust nature reserves and Woodland Trust sites. The majority of sites managed for nature conservation are open to the public, helping to bring people closer to nature. They also help to improve the general quality of life for people through health benefits associated with increased activity, better air quality and attractive surroundings and in a number of instances also provide education opportunities as “outdoor” classrooms.

However, the resource is patchily distributed across the two counties and access in many areas fails to reach the standards set by Natural England. As a consequence people tend to visit a limited number of sites and the numbers can be detrimental to the nature conservation interest particularly where habitats and species are particularly sensitive to disturbance, as during the bird breeding season.

To address the deficiency in accessible nature green space this plan has the following aims.

- Identify areas where there is a deficit of natural green space.
- Identify potential targets for designating new sites through mapping strategic green infrastructure and habitat opportunity mapping.
- Promote the designation of new sites and encourage public access particularly where access to natural green space for many people is at a premium so as to reduce the distance they need to travel to access this space.
- In those parts of Leicestershire and Rutland which are of low value for wildlife and are unlikely to be targeted for nature reserve acquisition by nature conservation organisations, promote the creation of new Local Nature Reserves and Country Parks to provide accessible open green space.

7. Community Participation Plan

Aims

To increase people's participation in wildlife conservation and recording.

To increase understanding of wildlife issues.

To increase the availability and quality of wildlife recording and information.

Guidelines for community participation

- Work with existing recorder groups and natural history societies to increase membership, and to identify and survey sites where our knowledge is lacking.
- Involve recorder groups and natural history societies in larger events such as an annual 'Bioblitz' event.
- Increase the number of Local Nature Reserves (LNR's) declared in Leicestershire and Rutland where appropriate.
- Work to involve more people in taking ownership of their LNR through establishing Friends of Groups where they exist.
- Encourage public to recognise the conservation value of their back gardens through events, websites, public surveys and collation and publication of data.
- Put together an information display to send around Leicester, Leicestershire and Rutland libraries and community centres about Space for Wildlife, what people can do to help and where they can go to get more involved or for more information.
- Include more information about how the public can help and get more involved on the website.
- Provide case studies of good practice for local publicity, rotate these on the website.
- Work with local press to improve the number of wildlife informed articles printed.
- Work with Green Infrastructure working groups to involve planning for wildlife and to promote the multiple benefits of improving access to green space.
- Data exchange agreement to be set up between BAP organisations.

8. Important areas for wildlife in Leicestershire and Rutland

Five areas of Leicestershire and Rutland are recognised as having high value for wildlife because of the quality of existing habitats, the concentration of important sites and the opportunities for habitat creation found within them. These areas are:

- **Charnwood Forest and the adjoining National Forest**
- **Soar and Wreake Floodplain**
- **Leighfield Forest**
- **Rutland Water**
- **(Lincolnshire and) Rutland Limestone**

These areas form part of the Wildlife Trusts Living Landscapes initiative (<http://www.wildlifetrusts.org/index.php?section=environment:livinglandscapes>) Summaries of each, and a map showing indicative locations, are below.

Leicestershire and Rutland Wildlife Trust Living Landscape Schemes

A Living Landscape Scheme, as defined by The Wildlife Trusts, is an ecologically functioning landscape, such as a river catchment, that can provide:

- Adaptation to climate change
- Resilience and connectivity for wildlife
- Access, enjoyment and inspiration for people
- A low carbon contribution to the economy

Living Landscapes are what is really needed in nature conservation, rather than a series of isolated, protected sites, including nature reserves, which inevitably lose their special wildlife over time, through factors such as changes in the climate or activities on adjacent land.

To achieve these large scale objectives will take much time, money and crucially requires the support of landowners since nearly all of the land in Leicestershire and Rutland is privately owned.

Leicester, Leicestershire and Rutland Living Landscapes are shown below; boundaries are indicative.

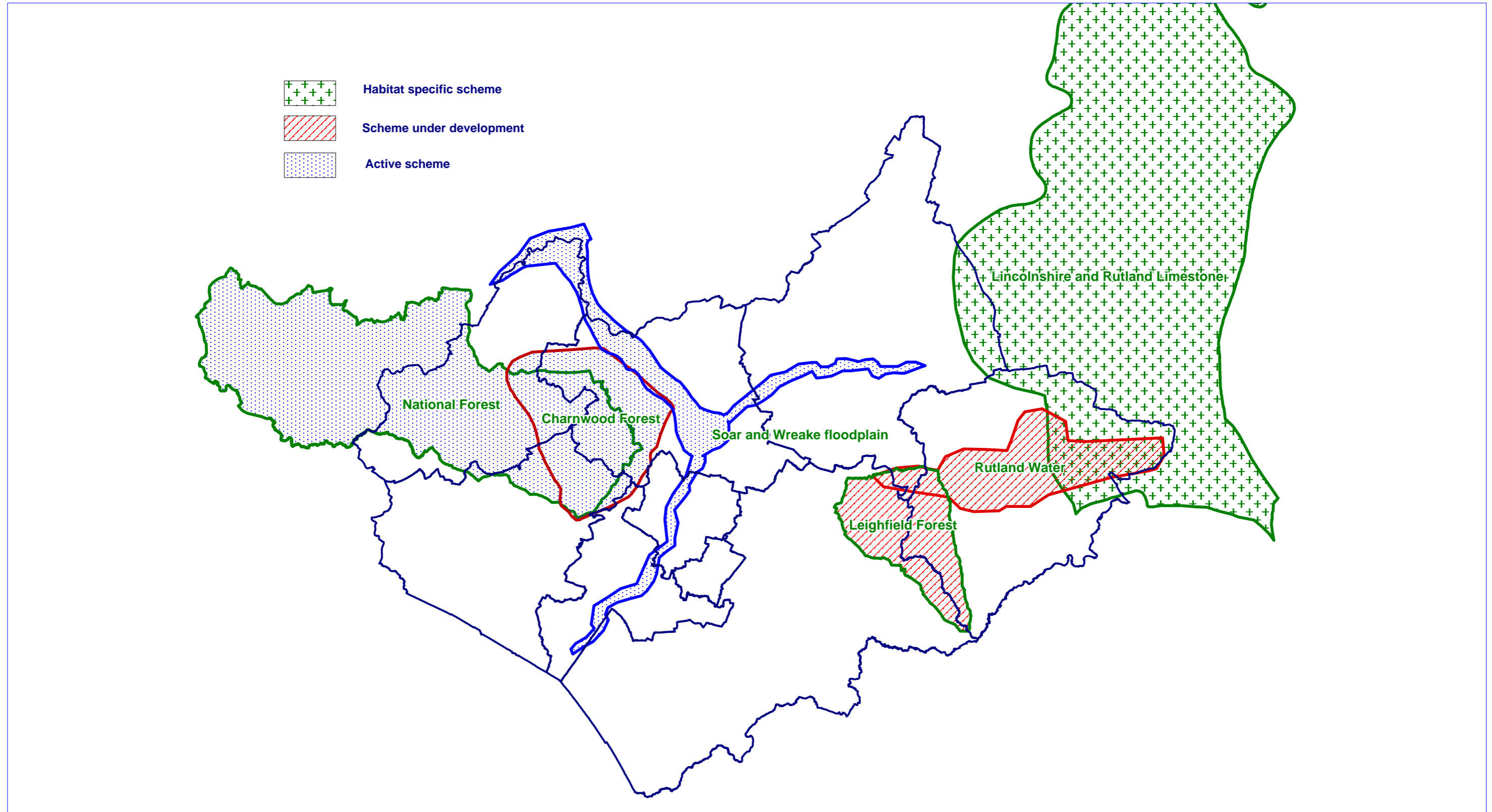
NOTE: Apart from minor updates, re-drawing map and correcting typos, this section is virtually unchanged from the 2010 – 2015 'Space for Wildlife' BAP, produced by the Leicestershire and Rutland Wildlife Trust.

Leicestershire & Rutland Environmental Records Centre

Leicestershire County Council

Living Landscape areas

Leicester, Leicestershire and Rutland BAP 2016



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10/01/2017

01a Charnwood Forest

Located in the north-west part of Leicestershire, covering about 17,000 hectares, Charnwood Forest consists of a patchwork of woodland, farmland, country parks, nature reserves, quarries and villages.

The amount of good quality habitat available to wildlife has diminished significantly over the last 60 years.

Leicestershire and Rutland Wildlife Trust (LRWT) is working with the Friends of Charnwood Forest, CPRE, The National Forest Company, Local Authorities, Natural England and others to restore a mixture of woodland, wood-pasture, heath-grassland, and meadow habitats.

Charnwood Forest is also internationally important for its geological features.

LRWT owns several nature reserves in the area and it is seeking to link these through habitat creation and restoration work. The largest of these reserves are Charnwood Lodge, Ulverscroft and Charley Woods.

Scheme start

2009

Scheme status

Active

Progress to date

Detailed report produced and distributed. Qualified financial support of Aggregate Industries secured for project in west of Charnwood Forest.

Future prospects

The Wildlife Trust has struggled to buy land in Charnwood forest in recent years because of high prices. Forging relationships with landowners, especially those that are not primarily farmers, seems the best way forward.

01b The National Forest

The National Forest was launched in the early 1990s and the Wildlife Trust has been a partner in it from the start.

Scheme start

1992

Scheme status

Active

Progress to date

See The National Forest website for more information.

<https://www.nationalforest.org/>

The National Forest has its own Biodiversity Action Plan

<https://www.nationalforest.org/forest/nature/action/latest.php>

The LRWT has bought three new Nature Reserves with The National Forest funding

Future prospects

Excellent, as long as the government continues to support TNF

02 Soar and Wreake Floodplain

The floodplain of the Soar and Wreake rivers, in central Leicestershire, covers about 6,000 ha, with land uses including pasture, some arable, gravel pits, urban, roads, country park and nature reserves. Important wildlife habitats - as well as the rivers themselves, which are home to otters and rare water beetles - include wetlands, supporting many wintering and migrating birds, water voles and dragonflies, wet woodland and haymeadows.

The Wildlife Trust owns nature reserves in the area, including Cossington Meadows, Loughborough Meadows and Narborough Bog. The scheme aims to provide substantial areas of new nature reserves and other land managed with nature conservation a priority.

Charnwood Borough Council, the Environment Agency, Natural England, Leicestershire County Council, Leicester City Council, Leicestershire and Rutland Wildlife Trust and local community groups are amongst those who have contributed to date.

Scheme start

2001

Scheme status

Active

Progress to date

New nature reserves covering 140ha (ca 340 acres) have already been purchased at Cossington, Mountsorrel, Loughborough and Wanlip; a habitat survey of much of the floodplain carried out; advice given to many landowners; work on private land supported through the Environmental Stewardship Scheme, Environmental Action Fund, Forward with Leicestershire Aggregates and Biffa landfill-tax funding; practical events organised for volunteers and guided walks.

Future prospects

These are good. The valley does not contain high quality land from an agricultural point of view, land prices are reasonable, the Trust has strong support from some local authorities, co-operation from landowners is encouraging, and funding is available from a number of sources.

03 Leighfield Forest

Spanning parts of East Leicestershire and West Rutland, The Leighfield Forest covers about 12,500 hectares. The forest combines ancient woodland, pasture, some arable farming and small villages.

The size and quality of habitat has declined

LRWT has four fine ancient woodland nature reserves and the Forestry commission manages two large ancient woodlands. Nearly all the remaining land is in private ownership.

Scheme start

1997

Scheme status

Under development

Progress to date

Conifers have been removed from several woods, including the Wildlife Trust nature reserve at Launde park wood and the Forest Enterprise managed Owston Woods. The forestry commission JIGSAW scheme has been used to assist in restoring and reconnecting ancient woods through creation of new native woodlands.

Future prospects

Purchasing further land in Leighfield Forest is going to be difficult. Environmental Stewardship grants are only available for a small part of the area and the JIGSAW scheme does not exist now. There is also very little publicly owned land. Trying to secure grants for the entire Leighfield Forest at the next review of the scheme and lobbying the Forestry Commission for a new grant scheme to facilitate the linking of ancient woodlands seem the best options. Forging a closer working relationship with the Forestry commission over their two big woods is also desirable but has not proved to be possible to date.

04 Rutland Water

Rutland Water is one of the largest man-made lakes in Europe. It has been designated as a Special Protection Area (SPA) in recognition of its bird populations and is particularly important for wintering wildfowl.

The reservoir is fed by the River Gwash and its tributaries.

The reservoir is however surrounded by a variety of habitats such as ancient woodlands and old meadows. As well as wildfowl, other bird species present include Red kite and Osprey. The latter is the subject of a reintroduction programme carried out by Anglian Water and LRWT. The area is also home to many other animals and plants such as several bat species, otter, rare lichens and many butterflies and moths.

LRWT has a large nature reserve at the western end of the reservoir, but is also working with Anglian Water and neighbouring landowners to improve habitats around the entire site. This work now needs to be extended into the Gwash catchment.

Scheme start

Scheme status

Under development

Progress to date and future prospects

These are excellent, assuming the continued support of Anglian Water. Influencing other owners to manage their land in a more wildlife-friendly way would be a logical next step. Acquiring some of it to add to the nature reserve should also be considered.

05 Rutland and NE Leicestershire limestone

The Oolitic limestone of SW Lincs, NE Leics and E Rutland forms one of Natural England's Natural Character Areas. The Lincolnshire WT, LRWT and Natural England have formed a partnership to address the conservation of lowland calcareous grassland in this area and have obtained funding to do this. A project officer has been appointed by Lincs WT.

Scheme start

2009

Scheme status

Habitat specific

Progress to date

Surveys of roadside verges have been undertaken and equipment purchased by Lincs WT to carry out work on roadside verges. Rutland County Council have substantially improved the management of the best roadside verges in their care.

Future prospects

Acquiring further land other than old quarries will be very difficult, but the quarries have great potential. Agri-environment schemes could be used to extend the limestone grassland on roadside verges into the adjacent fields, making the more viable. However, development of a functioning ecological entity across this very large area of high-grade agricultural land seems unlikely in the foreseeable future.

9. Habitat creation information

Space for Wildlife - guidelines for habitat creation projects in Leicestershire and Rutland

These guidelines have been produced to aid anyone wishing to create habitat for wildlife in Leicestershire and Rutland, whether on an existing site or a new site, either to improve the wildlife value of their own land or as part of a new development. Set out below are some general principals and considerations to help inform your decision as to which habitat might be most appropriate for your situation.

NOTE: Apart from minor updates and correcting typos, this section is virtually unchanged from the 2010 – 2015 ‘Space for Wildlife’ BAP, produced by the Leicestershire and Rutland Wildlife Trust.

Before starting

- What is there already? Does something new need to be created or is there existing habitat which just needs to be maintained?
- Allowing a site to develop naturally rather than actively creating a new habitat by planting and other operations may often be better for wildlife (and cheaper to achieve). Abandoned ex industrial ‘brown field’ sites can be better for wildlife (particularly for butterflies and other invertebrates) than artificially created new habitat
- How big is the area? Some habitats have minimum size requirements. For instance a reedbed should be at least 20 ha in extent to support breeding bitterns
- Large sites support more wildlife than small sites and are usually easier to maintain
- Don’t forget that most habitats require some kind of on-going management and that arrangements need to be put in place for this. For instance grasslands require mowing or grazing, reedbeds require cutting, new woodlands, at least in the first few years, require removal of competing vegetation to aid establishment, wetlands may require willow scrub removal etc. If you are unable to commit to long term management consider creating habitats which require little regular management – examples include wet woodland, large areas of open water, scrub, rough grassland
- Is the proposed habitat appropriate for the location? Certain habitats have specific environmental requirements – heathland is restricted to acid soils, calcareous grassland to free draining soils over limestone. High nutrient levels as found in ex-arable farm land are incompatible with some habitats which depend on low soil fertility (heathland, most types of species rich grassland)
- Do you require planning permission (for instance ponds to benefit wildlife created in the open countryside) or appropriate consents (for instance Environment Agency consent for some types of habitat creation in river floodplains; Forestry Commission or Local Planning Authority Consent for tree work/felling)
- Budget. Some habitats have expensive site preparation and establishment costs. It is often more cost effective to work with what is present on the site already rather than to create something from scratch
- Will there be public access. Disturbance may be a problem and will determine what wildlife will benefit from the site. Dogs in particular are detrimental to breeding birds

Choosing the appropriate habitat

Many people wish to create a specific BAP habitat (see below) but in many instances it might be more appropriate to think in more general terms and create habitat belong to one of three broad categories, all of which will benefit wildlife locally:

- Wetland (open water and/or land which has impeded drainage and retains water for part or all of the year or which floods regularly)
- Woodland (land covered with trees or scrub – either planted or naturally regenerating)
- Open land (land with no or low intensity management with little or no agricultural inputs. Includes unmown rough grassland, regenerating natural vegetation and sown or planted vegetation)

Depending on the nature of the site it may be possible to create habitat falling within these categories with much less outlay or commitment to long term management than with some of the BAP habitats. In particular using existing features of the site and allowing a site to develop naturally requires less site preparation, avoids difficulties with sourcing appropriate seed mixes and is often less expensive. Sites which develop naturally can be slower to establish but the wildlife value is often higher than an artificially created habitat - as long as you are prepared to accept what 'nature' brings along (something which is not always predictable!)

If you wish to create one of the local or national BAP (Biodiversity Action Plan) habitats then further information on UK BAP habitats can be found at <http://jncc.defra.gov.uk/page-5155>

Please be aware that a number of the habitats in the UK list do not occur in Leicestershire and Rutland; also that the local BAP habitats may differ from the national ones reflecting local variations and priorities.

This document is not intended to provide detailed guidance on creating new habit and it is recommended that you obtain expert advice before proceeding with any such project.

Additional information on creating specific habitats in Leicestershire and Rutland is given below.

Floodplain Wetland (UK BAP Coastal and Floodplain Grazing Marsh)

- Must be in the floodplain with the water table at or near the surface for much of the year
- A good choice of habitat for restoring sites used for sand and gravel extraction. Likely to be much cheaper than restoration to return the land to its former state (usually farmland)
- The ideal locations are in the Soar and Wreake Valleys where new sites can link into an increasing network of similar sites
- A varied habitat structure is important here with areas of open water. Be prepared to accept areas dominated by tall weedy species – they are very good food sources for many animals
- On-going management includes grazing unless the site is to be allowed to develop as wet woodland when no long term management is required
- Does not require planting – wetland species soon colonise such sites particularly if subject to occasional flooding from an adjacent river
- Beneficial for birds and invertebrates
- Minimum size about 1 ha. Where the site is to be managed by grazing a larger area is preferable

Eutrophic Standing Water

- Ponds and lakes – no minimum size but larger support more wildlife
- No need to plant except perhaps for very small isolated ponds– aquatic and marginal species can colonise new sites rapidly particularly if adjacent to existing water bodies
- Occasional management might be required to maintain open water
- Appropriate throughout Leicestershire and Rutland

Hedgerows

- Easy to establish although some weed control may be necessary in the first few years
- Appropriate throughout Leicestershire and Rutland
- Some on- going management but hedges allowed to grow tall and thick are better for wildlife than those cut annually

Calcareous Grassland (UKBAP -Lowland Calcareous Grassland)

- Only appropriate in parts of North-east Leicestershire and East Rutland where the soils are derived from the underlying Oolitic Limestone
- Best sites to create this habitat are usually on former Limestone workings where soils are thin and nutrient poor. Ex-arable land is often not suitable because of the high nutrient levels. Such sites require nutrient depletion and removal of competing weed species which make establishment costs high
- The total area of Limestone Grassland in Leicestershire and Rutland has been estimated as less than 30 ha. As a consequence sourcing green hay for seeding new limestone grassland is very difficult. Large areas will require expensive sourcing of non-local seed from specialist suppliers
- On-going management will require annual grazing therefore sites should be at least 1 ha unless adjacent to an existing Calcareous Grassland
- Former quarries are probably best left to develop and be managed as Open Mosaic Habitats on Previously Developed Land (another UKBAP Habitat) which are very good for a large range of wildlife including invertebrates, birds and plants

Heath Grassland (UKBAP Lowland Dry Acid grassland/ Lowland Heathland)

- True heathland dominated by ericaceous shrubs (e.g. heather) is (as it would seem to have been historically) very rare in Leicestershire and Rutland. Most local heath is a mosaic of acid grassland with scattered ericaceous shrubs as is recognised by the Heath Grassland plan in the local BAP
- Heath grassland is mainly confined to the Charnwood Forest and parts of Northwest Leicestershire
- For heath grassland creation it is essential that the soil is acidic
- The soil fertility should be low. Ex arable land is often not suitable because of the high nutrient levels. Nutrient depletion and removal of competing weed species result in high establishment costs
- On-going management (annual grazing) is necessary to maintain this habitat therefore sites should be at least 1 ha unless adjacent to existing Heath Grassland

Neutral Grassland (UKBAP - Lowland Meadows)

- The soil needs to have low fertility – high levels of nutrients can be detrimental to many meadow flower species and will favour tall rank plant species which will out compete slower growing and shorter species. Without significant nutrient depletion much ex arable land is unsuitable for creating a species rich meadow
- Much time and effort needs to be put into site preparation particularly where invasive weeds such as thistles and docks are present
- Follow up management to support establishment of a species rich sward (eg controlling unwanted weed species) needs to be carried out for several years after sowing
- Introducing flowering plants species into an existing closed grass sward is difficult and can be time consuming and expensive
- Take care with sourcing seed. Obtain from a reputable supplier and ensure all the included flower species are native to the UK and of UK provenance. Wildflower mixes can contain seeds of European origin which differ markedly from the equivalent UK species and these should not be introduced into the wild
- A number of wildflower seed mixes contain species such as Corn Flower, *Centaurea cyanus*, and Corncockle, *Agrostemma githago*, which are plants associated with arable crops and not grassland. As a consequence they are dependant on cultivation in order to continue appearing year after year and will rapidly disappear from a grassland
- Using 'green hay' to seed your grassland requires the identification of a suitable donor site, a large amount of hay and the ability to coordinate cutting and spreading as green hay must be used immediately. In most instances it is usually only the relatively common species present at the donor site which are propagated
- Flower rich meadows require long term on going management (hay cutting or grazing). Small sites less than 1 ha are difficult to manage unless adjacent to an existing meadow site
- Although in the short term a species rich sward may be produced experience suggests that in the long term it is only the relatively common meadow species such as Black Knapweed, *Centaurea nigra*, and Common Sorrel, *Rumex acetosa*, which persist

Broadleaved Woodland (UKBAP - Lowland Mixed Deciduous Woodland)

- Suitable for most soils and sites although some situations may require more ground preparation than others. Very fertile soils, such as ex-arable land, may cause establishment problems as the result of vigorous growth of competitive grass and herb species
- Do not plant woodland on sites with good existing wildlife value or where it might break up blocks of existing good habitat or cause isolate them in the landscape
- Although there is no minimum size small sites are more likely to be affected by adjacent land use and are best located near to existing woodland for the greatest benefit to wildlife
- Plant a mix of native broadleaf tree and shrub species of local or UK provenance – a reputable supplier should be able to source these for you
- Plan to have a network of paths and open areas to vary the future woodland structure and maximise the benefit to wildlife
- Site preparation is important and may be costly where competitive species are present. Where deer numbers are high, fencing will be necessary to protect the young trees from browsing

- Allow for at least five years of on-going management during the establishment phase of the woodland – mainly weed control and mowing
- Long term management includes thinning and path mowing
- Where sites already have naturally established tree and shrub seedlings allow these to remain – consider allowing the site to regenerate naturally rather than planting trees – this is a long term process but will eventually allow the development of a more varied ‘natural’ woodland

Urban Habitat (UKBAP - Open Mosaic Habitats on Previously Developed Land)

- Post-industrial land and other ‘wasteland’ can have considerable value for wildlife. Before carrying out any habitat creation scheme on such sites undertake a wildlife survey to identify which species are present and what their habitat requirements might be
- Try to avoid the temptation to ‘tidy up’ post-industrial sites as this can result in a reduction in its value for wildlife
- Bare ground is itself important for a number of species – particularly invertebrates - and some should be left in any habitat restoration scheme for these sites. The best option is a mosaic of open and vegetated ground with a mix of low growing herbs and taller scrub species
- Where fertility is low on-going management to control vegetation will be minimal. Where growth is more vigorous scrub control may be necessary to maintain vegetation structure

Reedbeds

- Reedbeds themselves are home to a relatively few species, although some of these are quite rare. The UKBAP Reedbed Habitat Action Plan was conceived to benefit breeding bittern – the minimum size for a reedbed to support breeding bittern is 20 ha. There are no reedbeds of this size in Leicestershire and Rutland
- Smaller reedbeds can benefit wildlife where they form part of a mosaic of wetland habitats
- Reedbeds are suitable for nutrient enriched sites. They can be established in and around areas of shallow open water which do not dry out
- Establishment costs can be high particularly where water control structures are planned to aid future management. Machinery and planting costs can be high when preparing and setting out a site. Establishment is quickest when transplanting large clumps of reed from an existing reedbed using an excavator bucket but cost may be high particularly where transport is required to get the reed to its new site. Planting out plugs of reed grown in a nursery is labour intensive and the young plants will require protection from grazing.
- Small reedbeds can be left to develop naturally but may become colonised by trees and end up as wet woodland. Once established larger reedbeds will require a cycle of annual rotational cutting and removal of litter in addition to removing any invading willow scrub in order to maintain them

Wet Woodland

- Wet woodland was probably the dominant vegetation throughout the floodplains of all water courses in Leicestershire and Rutland. However most was cleared for agriculture long ago and it is now rare locally
- Wet woodland is dominated by trees such as willow and alder and is particularly valuable for birds and invertebrates
- Wet woodland is suitable for any area of permanently or seasonally waterlogged ground but should not be established on existing good wetland habitat

- Willows and alder are easy to establish from cuttings provided conditions remain wet. Where nearby trees provide a good seed source natural regeneration will result in the rapid development of wet woodland on water-logged sites provided grazing animals are excluded and the site is not mown
- Wet woodland requires little or no on-going management. Old trees should be left to fall over and decay in situ. Willow in particular will layer itself from fallen trunks and branches creating a thicket of new trees. Dead wood should not be tidied up

Lowland Wood Pasture and Parkland

- Parkland in which large open grown trees are grown in a matrix of grazed grassland is a suitable habitat for most parts of Leicestershire and Rutland.
- The site should be assessed beforehand. Species rich grassland should be avoided since the plants may not tolerate shading and the presence of trees might interfere with the management of the site including hay cutting
- For the greatest long term benefits to wildlife planting new parkland adjacent to existing parkland is best
- Where there is existing parkland assess whether there are sufficient young trees to maintain the habitat in the future
- Provided the site is already grassland the establishment costs are relatively low. The trees need to be protected from browsing and suppression of competing weeds is essential in the first few years. Long term management of the trees is minimal but annual management of the grassland matrix by grazing or mowing is necessary

Field Margins

- Field margins act as a buffer zone between an agricultural crop and adjacent land. They can function to protect adjacent good habitat from the effects of agricultural chemical applications such as fertilisers and pesticides and can act as wildlife habitat themselves
 - Field margins managed for wildlife can be established wherever agricultural crops are grown and may form part of an Environmental Stewardship Scheme
 - Wider margins with no inputs of chemicals are better for wildlife
 - Physical management may be similar to that of the adjacent crop (cultivated margins) or be different (grass margins / arable fields)
-

Information on habitat creation can be found on the following websites:

- **Wetland creation**

<http://freshwaterhabitats.org.uk/>

www.herpconstrust.org.uk

http://www.british-dragonflies.org.uk/local_groups/leicestershire-rutland-dragonflies

- **Woodland creation**

<https://www.nationalforest.org/woodlands/>

<https://www.woodlandtrust.org.uk/plant-trees/>

- **Woodland management**

<https://www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/woodland-habitats/>

www.countrysideinfo.co.uk/woodland_manage/wood_manage.htm

- **Open land for wildlife**

www.grazinganimalsproject.org.uk

www.rspb.org.uk/ourwork/farming/advice/details.asp?id=204231

- **Managing farmland for wildlife**

www.naturalengland.org.uk/information_for/farmers_and_land_managers

www.rspb.org.uk/ourwork/farming/advice/

<http://www.plantlife.org.uk/>

- **Hedge planting**

<http://www.hedgelink.org.uk/hedgelink/files/NE%20HEDGEROW%20PLANTING.pdf>

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Local Biodiversity Action Plan

Floodplain wetland

Action plan objectives

- **Create new floodplain wetland in the Soar, Wreake, Welland and Trent valleys**
- **To maintain all existing floodplain wetland sites**
- **Compile and maintain register of sites of local BAP quality**



Introduction

River floodplains are important for wildlife. They encompass a range of wetland habitats including old sections of river, cut-off from the main channel and often surrounded by trees, especially willows *Salix spp.*, marshy ground caused by the water table being at or near the surface, flooded gravel pits, wet woodland, drainage ditches along field margins, field ponds, the river channel and reedbeds. The river channel, wet woodland, reedbed and field pond habitats are covered by separate action plans.

The largest areas of floodplain wetland habitat in Leicestershire and Rutland are associated with the Soar, Trent and Wreake valleys and to a lesser extent are also found along the Welland and other, smaller, rivers and brooks.

Current extent

A desktop Inventory was compiled in 2005 for Leicestershire County Council by Derek Lott, identifying 259 sites (see attached map). Data was collated from 3 sources: SINC [*now called LWS*] schedules; the Wildlife Trust's Phase 1 survey data; and wetland beetle records held by the County

Recorder (at the time, this was Derek Lott at the time). There is also reference to a survey of the Welland from the Northamptonshire Wildlife Trust. The sites cover 107 hectares.

Derek concludes that the habitat is under-represented in the Inventory, due to the lack of recent survey information along watercourses. The Trent is identified as being particularly under-surveyed, and the Welland as having a scarcity of good quality habitat.

Some characteristic species

A wide range of wildlife can be found in floodplain wetlands including Otter (*Lutra lutra*), Water Vole (*Arvicola terrestris*), (both covered by species action plans), and birds such as Snipe (*Galinago galinago*), Redshank (*Tringa totanus*) and Sand Martin (*Riparia riparia*). Wetlands are also an important habitat for a wide range of invertebrate species. In particular the Soar and Wreake valleys contain known sites for a number of nationally rare beetles. The habitat is associated with few locally scarce plants. However, many watercourses are fringed by tall reed-like plants including Common Club-rush (*Schoenoplectus lacustris*), Grey Club-rush (*Schoenoplectus tabernaemontanii*), Bulrush (*Typha latifolia*) and Bur-reed (*Sparganium erectum*).

Local Wildlife Site criteria

'Floodplain wetland' is broad category, covering open water, ponds, marsh, fen, wet woodland, wet grassland, reedbed, ditches and the river channel. These habitats are covered by individual sets of LWS criteria within Woodlands, Wetlands and Grasslands.

Most important factors affecting the habitat

- Land drainage schemes.
- Infilling.
- River engineering schemes.
- Siltation as a result of agricultural cultivation.
- Road building and other developments which increase run-off and alter the catchment characteristics.
- Recreational pressures.
- Eutrophication caused by fertiliser application.

Opportunities

- Flood prevention and catchment management plans

Leicestershire & Rutland Environmental Records Centre

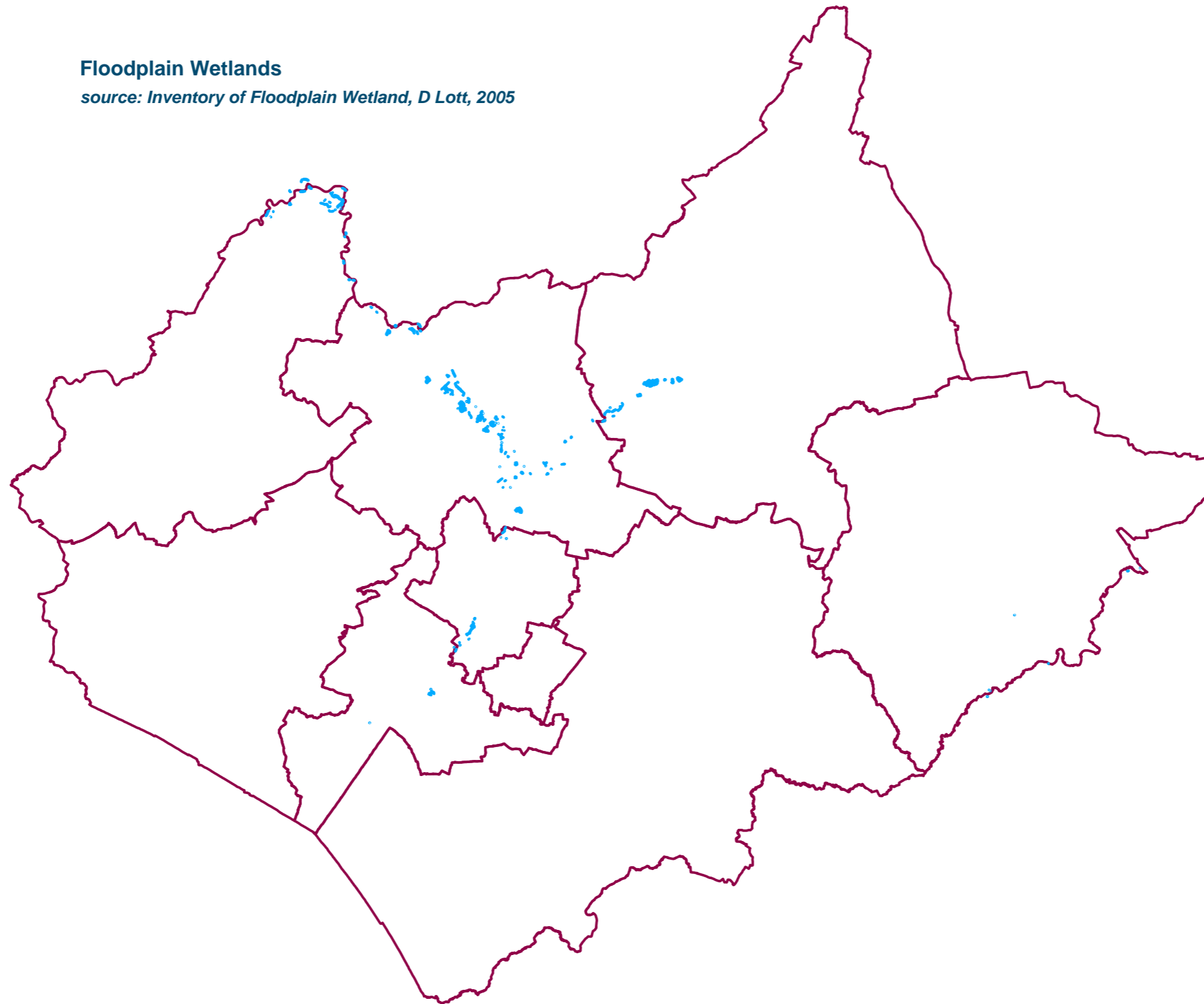
Leicestershire County Council

Map 8.1: Floodplain Wetland

Leicester, Leicestershire and Rutland BAP 2016

Floodplain Wetlands

source: *Inventory of Floodplain Wetland, D Lott, 2005*



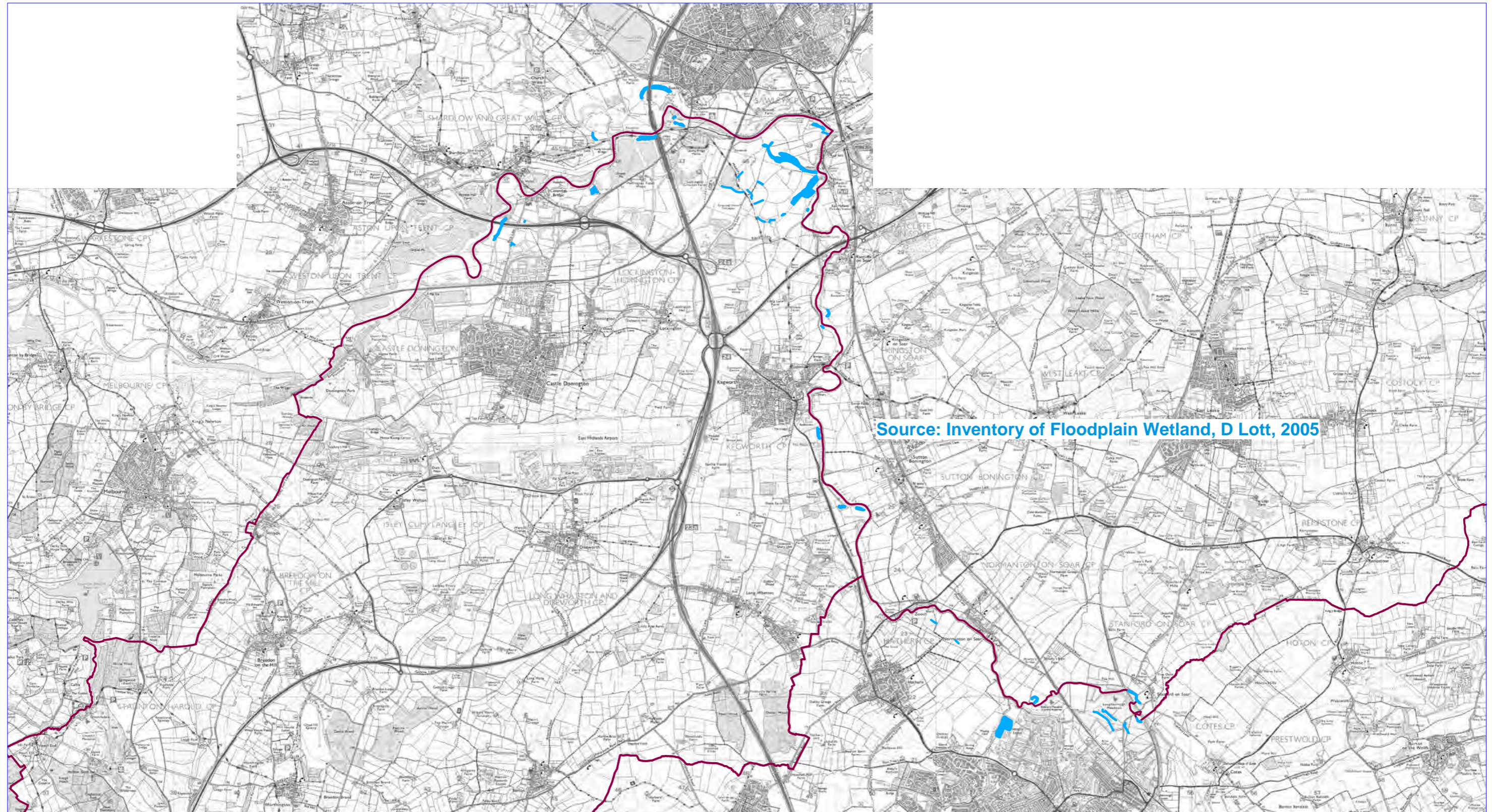
Leicestershire & Rutland Environmental Records Centre

Leicestershire County Council

Map 8.2: Trent and Soar Valley North of Loughborough

Leicester, Leicestershire and Rutland BAP 2016: Floodplain Wetland

Scale 1: 60,000



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29/12/2016

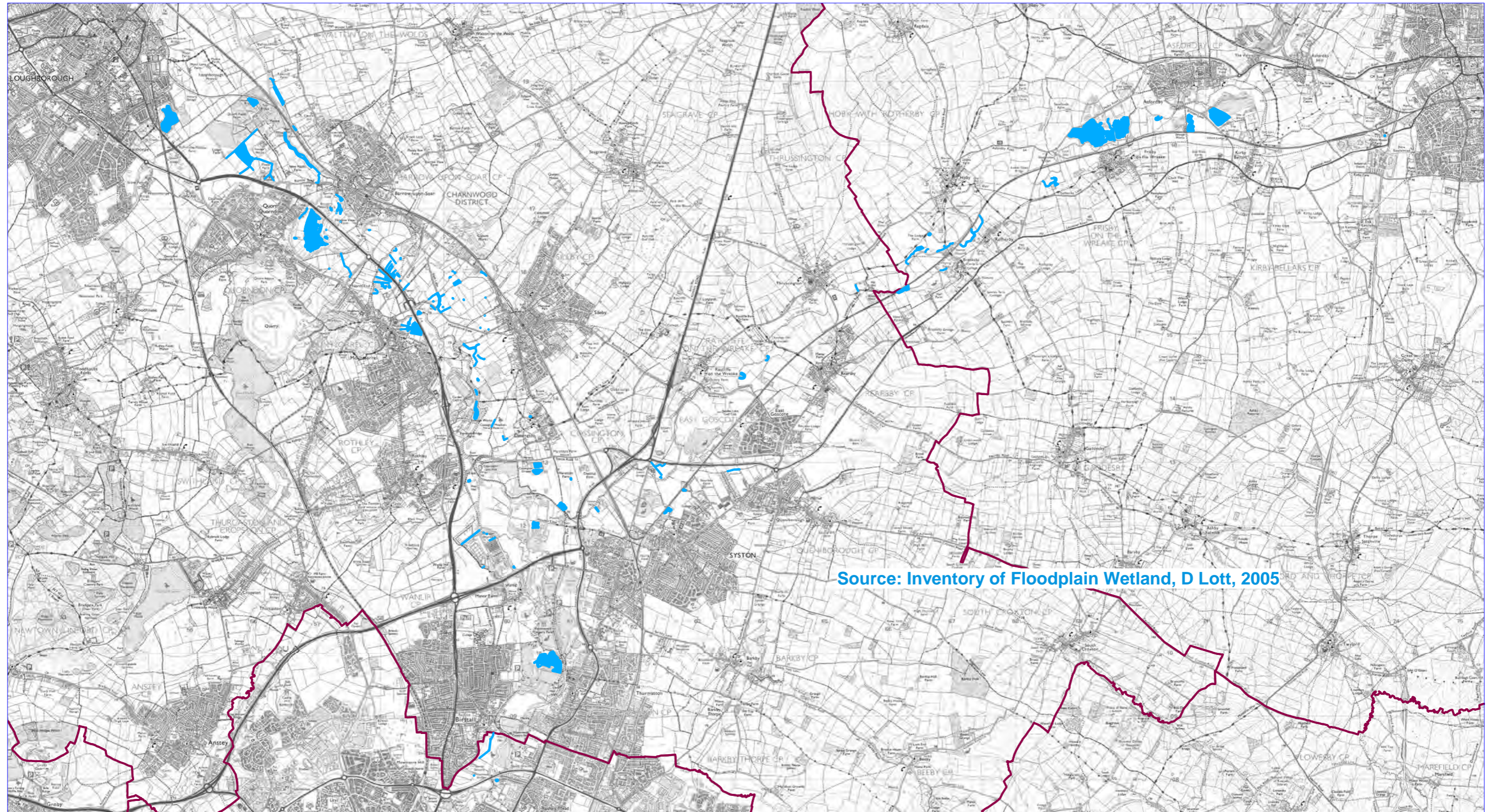
Leicestershire & Rutland Environmental Records Centre

Leicestershire County Council

Map 8.3: Soar Valley Leicester to Loughborough Wreake Valley W of Melton Mowbray

Leicester, Leicestershire and Rutland BAP 2016: Floodplain Wetland

Scale 1: 60,000



Source: Inventory of Floodplain Wetland, D Lott, 2005

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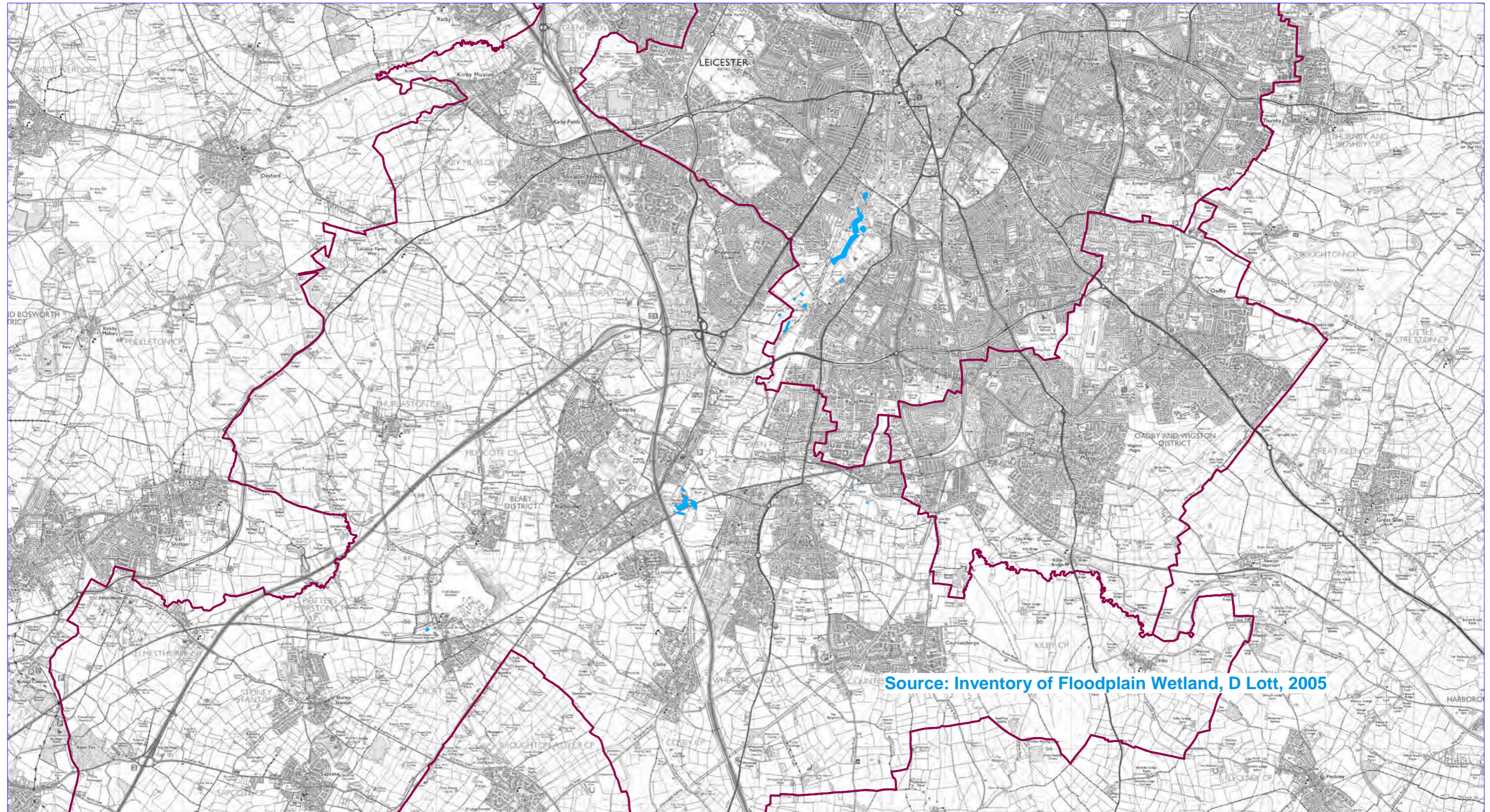
Leicestershire & Rutland Environmental Records Centre

Leicestershire County Council

Map 8.4: Soar Valley Leicester and south

Leicester, Leicestershire and Rutland BAP 2016: Floodplain Wetland

Scale 1: 60,000



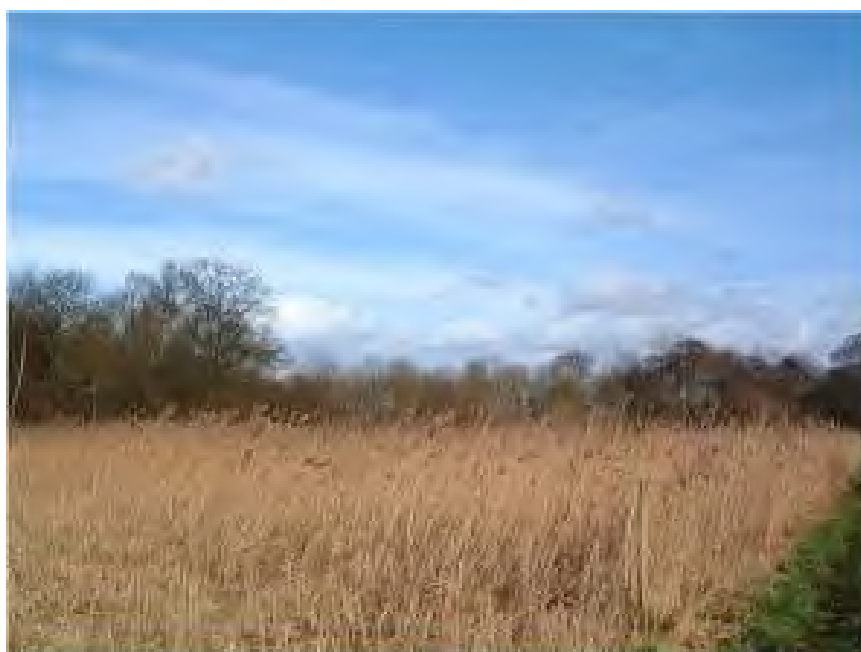
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Local Biodiversity Action Plan

Reedbed

Action plan objectives

- **Create new reedbeds, prioritising site adjacent to existing reedbeds and wetlands**
- **Compile and maintain register of sites**



Introduction

Reedbeds are wetlands dominated by, but not necessarily composed purely of, stands of the Common Reed *Phragmites australis*. Historically, Leicestershire and Rutland has never had extensive areas of reedbed. The largest remaining areas are associated with man-made habitats, including Groby Pool, Cave's Inn Pits and the Grantham Canal, all of which are SSSIs, at least in part. More recently, large reedbeds have been created at Rutland Water and Cossington Meadows Nature Reserve.

A large part of Narborough Bog SSSI was formerly reedbed but this is now drying out, as a result of works carried out on the adjacent River Soar.

Current extent

A draft Inventory was compiled in 2006, by Leicestershire County Council, but was never finalised. This has been revisited, and a draft list of sites and a map is appended. Sources are

- Wildlife Site Register
- SSSI citations

- Notes provided by LRWT for the 2006 Inventory
- Habitat Surveys of the Soar Valley in Watermead and Lockington, by Geoffrey Hall and Uta Hamzaoui for the LRWT.

Note that although these sites contain reeds, the extent of reed bed is not always clear, but the documents referred to all indicate at size approaching that required to meet LWS criteria.

There will be other reed-beds that have not been identified; for example, within former minerals workings.

New reedbeds are usually created by planting small clumps of reeds, which then expand and coalesce to form a single larger unit. They can develop quite rapidly in certain conditions, and it is hard to pin down their actual size while they are at this early stage of development.

Given these uncertainties, the estimate of c. 30ha is extremely tentative, and deliberately conservative; the actual extent is likely to be significantly more.

Some characteristic species

In the UK four species of birds are highly dependent on reedbeds for their survival: Reed Warbler (*Acrocephalus scirpaceus*), Bearded Tit (*Panurus biarmicus*), Marsh Harrier (*Circus aeruginosus*) and Bittern (*Botaurus stellaris*).

Reedbeds also provide roosting and feeding sites for migratory species: Swallow (*Hirundo rustica*); Sand Martin (*Riparia riparia*); Yellowhammer (*Emberiza citrinella*) and Corn Bunting (*Miliaria calandra*) and roost sites for several raptor species in winter such as Hen Harrier (*Circus cyaneus*). Locally, five Red Data Book invertebrates are closely associated with reedbeds including the Twin-spotted Wainscot moth (*Archanara geminipuncta*).

Local Wildlife Site criteria

Phragmites reedbeds are included in the *Standing water bodies, swamps, fens and ditches* set of criteria, with a size threshold of 500m² to meet LWS criteria.

Most important factors affecting the habitat

- The small total area and fragmented distribution of the habitat.
- Lack of or inappropriate management of existing reedbeds leading to drying out.
- Drainage works on surrounding land causing a lowering of the water table.
- Unsympathetic restoration of gravel pits.
- Pollution by toxic chemicals causing loss of fish and amphibian prey for key species and accumulation of poisons in the food chain.

Opportunities

- Flood prevention and catchment management plans.
- Sand, gravel and claypit restoration and regeneration.

Reedbeds in Leicestershire and Rutland

Site	Source	Date on source	Designation	Area (hectares)
Narborough Bog reedbed	LRWT	2005	SSSI/LRWT Reserve	1.35
Lucas Marsh reedbed	LRWT	2005	LRWT Reserve	0.54
Kelham Bridge reedbed	LRWT	2005	LRWT Reserve, LWS	0.76
Watermead S reedbed	LWS (City)	2005	LWS	1.26
Cossington Meadows reedbed	LRWT	2005	LRWT Reserve, LWS	0.99
Rutland Water, reedbed	LRWT	2005	SSSI/SPA	7.04
Groby Pool reedbed	SSSI citation/aerial photo	2011	SSSI	1.12
Cave's Inn Pits reedbed	SSSI Citation/aerial photos	2011	SSSI	0.29
Watermead N reedbed	G Hall, Habitat survey	2013	LWS, Country Park	2.89
Stanford Reservoir reedbed	LWS (LRERC)	2006	LWS 56872	1.35
Ullesthorpe Old Manor reedbed	LWS (LRERC)	2006	LWS 57769	0.30
Hermitage Estate reedbed	LWS 49423 (CBC)	2004	LWS 49423	0.37
Nook Farm Great Glen reedbed	cLWS, LRERC P1 Survey 2015	2009/2015	cLWS 90349/	0.44
Grounds Farm pit reedbed	G Hall/U Hamzaoui, Habitat Survey	2008	not designated	0.43
Winterfield Spinney reedbed	LWS (LRERC)	2007	LWS 60109	0.37
Syston Marsh Extension reedbed	LWS (CBC)	2002	LWS 25513	0.22
Grantham Canal	SSSI Citation/cLWS (LRERC)	2010	SSSI, cLWS 90604, 90605, 90608, 90610	Est. 6ha (canal is c.20km and 12ha, but not all is reedbed)

Compiled by LRERC, February 2016

Leicestershire & Rutland Environmental Records Centre

Leicestershire County Council

Map 9: Reedbeds

Leicester, Leicestershire and Rutland BAP 2016



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Local Biodiversity Action Plan

Fast-flowing streams

Action plan objectives

- **Promote the restoration of degraded stream habitats**
- **Compile and maintain register of sites**



Introduction

Fast flowing streams are for the purposes of this plan defined as any stream flowing over a substrate mainly composed of gravel or coarser particles. Fast flowing streams are found throughout Leicestershire and Rutland from the hard rock relatively nutrient poor areas of Charnwood Forest to the nutrient rich lowland reaches in the rest of the counties. The streams are often narrow; some are only a few kilometres in length whilst others comprise the headwaters of main rivers. Streams of importance for their specialist fauna are concentrated in the Charnwood Forest, and include the River Linn, Wood Brook and Grace Dieu Brook. In Rutland the River Chater and Eye Brook also have significant flora and fauna.

Grace Dieu Brook is unique in Leicestershire and Rutland for flowing through a small ravine with outcropping rocks in the stream bed and sides of the ravine. The mossy cliffs and boulder are known to be especially good for bryophytes and some ferns.

Current extent

An Inventory of these sites has not been compiled, and the current extent is not known.

Some characteristic species

Fast flowing streams support a number of specialist plants and animals including 22 key species. Amongst these are White-clawed Crayfish (*Austropotamobius pallipes*), Bullhead (*Cottus gobio*), Brook Lamprey (*Lampetra planeri*) and native Brown Trout (*Salmo trutta*). *Tinodes pallidulus*, a nationally rare Caddis fly, has been recorded from the Wood Brook in Charnwood Forest.

Local Wildlife Site criteria

There are no specific LWS criteria for fast-flowing streams; however, streams can be designated for the following features, all of which may be associated with fast-flowing streams:

Feature	Size threshold
• Riffle and pool system	none
• Gravel substrate	20m stretch
• Earth cliff eroded by water course	1m high
• Waterfall	1.5m high
• Moss-covered bedrock or boulders	none

Most important factors affecting the habitat

- Land drainage increasing storm flow and fine sediment load.
- Nutrient-rich run-off from agricultural land leading to eutrophication.
- Channel straightening resulting in removal of important habitat features.
- Diffuse and point source pollution.
- Drought and water abstraction leading to slow flows.

Opportunities

- Flood prevention and catchment management plans
- Pollution control and enforcement

Local Biodiversity Action Plan

Sphagnum ponds

Action plan objectives

- **No further loss of existing *Sphagnum* ponds**
- **Compile and maintain register of *Sphagnum* ponds**



Introduction

Sphagnum ponds are now a rare habitat in Leicestershire and Rutland, though they were once probably widespread in Charnwood Forest before the Enclosures. These ponds are usually small, covering only a few square metres. They contain varying quantities of acid water, and some are dry or only damp for part of the year. While most are open, trees heavily shade others. The habitat is nearly always in association with heath-grasslands.

Most of the known sites are in Charnwood Forest, and on designated SSSIs – Beacon Hill, Charnwood Lodge, Bradgate Park, Buddon Wood and Lea Meadows, for example. There are some regenerated on former coal-mining land in North-west Leicestershire. Great Bowden Borrow Pit SSSI is one of the few outside Charnwood Forest or North-west Leicestershire.

Current extent

Derek Lott and Dennis Ballard (then County Recorder for Bryophytes) compiled an *Inventory of Sphagnum ponds* in 2000, to inform the first local BAP. This is attached, with updated site

designations. It is based on survey data between 1985 and 1999; the data can be found in LRERC files S16 004.

It is not known how many of these sites are still present, but where known, the Inventory has been updated. Several ponds have either been destroyed or are in poor condition, and probably now lost; there is evidence that this habitat is in serious decline.

Since the 2000 Inventory, 7 of the Inventory sites have been designated as Local Wildlife Sites. The presence of a *Sphagnum* pond was given as a reason for designation on only two sites (Bath Lane, Moira, and Benscliffe Wood), leading to doubt about whether the *Sphagnum* is still present on these sites.

Some new ponds discovered since 2000 have been added to the Inventory.

Some characteristic species

Sphagnum ponds are an important habitat for many species of mosses, especially *Sphagnum* spp., as well as numerous invertebrates, including several species of Leicestershire Red Data Book beetles. A number of associated plant species are also locally scarce, including Common Cotton-grass (*Eriophorum angustifolium*), Bog Pondweed (*Potamogeton polygonifolius*) and Floating Water-plantain (*Luronium natans*).

Local Wildlife Site criteria

All ponds with *Sphagnum* species can be designated as LWS; there are no size thresholds.

Most important factors affecting the habitat

- Drought and lowered water tables resulting from land drainage
- Colonisation by trees, leading to drying out and shading.

Sphagnum ponds in Leicestershire and Rutland

Based on 2000 Inventory compiled by Derek Lott and Dennis Ballard.

Updated status/designation notes, and additional records marked '*', by Sue Timms Feb 2016

Site name	Grid Ref	Dates of survey	District	Management status (where known)	Site Status (updated 2015)
*Beacon Golf Course	SK524146	1989	Charn	Grid ref is not on golf-course-possibly Hangingstone Hills, SK524159?	Within SSSI
Beacon Hill	SK519145	1989	Charn		SSSI
Benscliffe Wood	SK512121	1989	Charn		SSSI/LWS 25404
Benscliffe Wood	SK518125	1989	Charn		SSSI/LWS 25404
Benscliffe Wood	SK515125	1987	Charn		SSSI/LWS 25404
Benscliffe Wood	SK513123	1988	Charn		SSSI/LWS 25404
Bradgate Park	SK535109	1989	Charn		SSSI
Bradgate Park	SK525105	1993	Charn		SSSI
Bradgate Park	SK539105/7	1993	Charn		SSSI
Bradgate Park	SK529119	1992	Charn		SSSI
Bradgate Park	SK541115	1986	Charn		SSSI
Bradgate Park	SK537111	1986	Charn		SSSI
Bradgate Park	SK539118	1985	Charn		SSSI
Bradgate Park	SK533108	1986	Charn		SSSI
Bradgate Park	SK531115	1986	Charn		SSSI
Bradgate Park	SK536115	1985	Charn		SSSI
Bradgate Park	SK523106	1989	Charn		SSSI
Bradgate Park	SK526107	1985	Charn		SSSI
*Buck Hill	SK508165	1988	Charn	Pond not referred to in LWS citation, 2002	LWS 25391/25392
Buddon Wood	SK577152	1988	Charn		SSSI
Buddon Wood	SK558153	1988	Charn		SSSI
Buddon Wood	SK556151	1988	Charn		SSSI
Burley Wood	SK890098	1986	Charn	unfavourable	SSSI
Lea Meadows	SK506113	1992	Charn		SSSI, LRWT Reserve
Ulverscroft Reserve	SK489131	1988	Charn	Not referred in LWS citation	LWS 54199, LRWT Reserve
Ulverscroft Reserve	SK486130	1987	Charn	Not referred in LWS citation	LWS 54199, LRWT Reserve
*Benscliffe Wood	SK513128	1999	Charn		SSSI – record in LWS 25404 notification, CBC
Altar Stones	SK484109	1999	H&B	Not referred to in LWS citations	LWS 80053, LRWT Reserve
Lawn Wood, Groby	SK507094	1988	H&B		None
*Martinshaw Wood	SK509072	1988	H&B	Not referred to in LWS citation, 2004	LWS 25883
*Bagworth Heath Country Park	SK457074	2009	H&B	Favourable (ST, 09).	cLWS 90370
*Great Bowden Pit	SP743898	1992	Harb	Favourable (NE, 2009)	SSSI
The Mot, Gumley	SP676898	1990	Harb		none
Stapleford Park	SK821184	1990	Melt		none

*Bardon Rise Rocks Farm	SK469120	1989 1999 2008	NWL	Site given quarry permission in 2011. Not present in 2008 (Pedley)	none
*Bath Lane, Moira	SK307157	1991 2014	NWL	Not re-found in 2014 survey by WYG; drying out and tree-shading	LWS 26225
*Cademan Moor	SK437171	1988	NWL	The grid ref is just outside SSSI, but may be error: in a plantation.	SSSI?
Charnwood Lodge	SK465151/2	1988	NWL		SSSI, LRWT Reserve
Charnwood Lodge	SK465157	1988	NWL		SSSI, LRWT Reserve
Charnwood Lodge	SK467154/5	1986	NWL		SSSI, LRWT Reserve
Charnwood Lodge	SK470153	1986	NWL		SSSI, LRWT Reserve
Charnwood Lodge	SK476154	1991	NWL		SSSI, LRWT Reserve
Charnwood Lodge	SK463154	1985	NWL		SSSI, LRWT Reserve
Grace Dieu Wood	SK435179	1997	NWL		SSSI
Moira	SK307166	1988	NWL	Site of Conkers?	none
*Newfield Colliery	SK320154	1992 2009	NWL	In 2009, poor – drying out and shaded by trees (ST). Not referred to in LWS citation (2014) or surveys by Pedley, 2014	LWS 62500
*Newfield Colliery	SK321155	1993	NWL	Not referred to in LWS citation (2014) or Pedley 2014	LWS 62500
Spring Wood, Staunton Harold	SK380228	1986	NWL		Derbyshire WT
*Bardon Hill, Plantation pond	SK461136	2008	NWL	Found by Pedley, 2008, in survey for Quarry planning application; not referred in LWS notification	LWS 64294
*Hick's Lodge, Moira	SK327152	1994	NWL	Pond destroyed during coal-mining activities (see 2000 aerial photos). Site is now open space	None

Compiled by LRERC, February 2016

Local Biodiversity Action Plan

Springs and flushes

Action plan objectives

- **Compile and maintain register of springs and flushes that meet LWS criteria**
- **Provide advice on management**

Introduction

Springs occur where water wells up to the surface from underground aquifers, while flushes are areas of sloping ground with impeded drainage that are wet as a result of surface run-off. Most flushes of conservation interest are associated with springs that give them a long history of hydrological continuity. They usually have a mineral substrate and so are a type of 'marsh' habitat, but on gently sloping ground, such as at Botcheston Bog SSSI, local peaty deposits can build up and give rise to a 'bog' habitat.

Current extent

There is no inventory of sites.

In 1998, John Kramer carried out some detailed survey work on 15 representative sample spring/flush sites, with the aim of evaluating value of the habitat through analysis of dipterous fauna as key indicator species of quality.

He identified and visited c.46, estimating that this represented 10% of the entire habitat resource in Leicestershire and Rutland. The 46 sites are listed in the report's Appendix 4, with some brief notes.

Kramer's list of 16 sites is attached, with some additional information on site status and Crane-fly species-richness and site quality, taken from his subsequent proposal for 'Rapid Monitoring' of springs and flushes. All but one are identified as being of LWS quality.

The reports are held at LRERC, archive reference S80-32-010.

Sources: J. Kramer. A Preliminary Evaluation of some Leicestershire Springs and Flushes using their Dipterous Fauna, 1998 (LCC)

J Kramer. Rapid Monitoring Methodology – Site Evaluation (no date)

Some characteristic species

Typical plants of springs and flushes include Marsh-marigold *Caltha palustris*, Tussock Sedge *Carex paniculata*, Great Horsetail *Equisetum telmateia*, Soft Rush *Juncus effusus* and Marsh Valerian *Valeriana dioica*. The moss *Calliargon cuspidatum* is characteristic of many calcareous flushes in the East Midlands. The subterranean parts of springs support the water beetles *Hydroporus obsoletus* and *Agabus biguttatus* and probably other specialist invertebrates, although these have not been fully investigated in Leicestershire and Rutland.

Local Wildlife Site criteria

All unmodified woodland springs and flushes can be designated, as long as they have been established for over 50 years. This has proved to be a difficult criterion to use, and springs and flushes have more often been designated in association with other habitats, such as mesotrophic/wet grassland, swamp and wet woodland.

Following his survey and evaluation of some spring and flush sites (see 'Current extent', above), John Kramer devised a 'Rapid Monitoring System' based on Crane fly species richness and rarity.

Most important factors affecting the habitat

Drying out due to:

- Drainage for agricultural purposes or development.
- Lack of appropriate management leading to scrub invasion and natural succession to woodland.
- Groundwater abstraction leading to lowered water table
- Drought

Other factors:

- Inappropriate pond excavation leading to loss of spring and flush fauna and flora.
- Eutrophication from fertiliser application to surrounding land.
- Overgrazing leading to excessive poaching and removal of cover.

Springs and flushes in Leicestershire and Rutland

1. Identified in J. Kramer: A Preliminary Evaluation of some Leicestershire Springs and Flushes using their Dipterous Fauna, 1998 (LCC)

Also see *J Kramer: Rapid Monitoring Methodology – Site Evaluation (no date) – ‘Any Site having a Species Richness of 8 or more, or a Site Quality Index of more than 2 should be designated as a [LWS].’*

Table 8.1

Ref	Site	Grid ref	District	Habitat	*SR	**SQI	Site designation/note
S1	Bradgate Pond	SK52941154	Charn	Pond margin	12	4.17	SSSI
S2	Poultney Wood	SK49501327	Charn	Pond margin	21	2.57	LWS 54199. Spring not referred to in citation
S3	Croxtan Kerrial	SK83262898	Melt		28	2.5	none
S4	Scam Hazel Spring	SK33601832	NWL	Brook source	37	4.24	LWS 61217. Spring not referred to in citation
S5	Saltby Swallet	SK83842770	Melt	Temporary brook	13	1.62	none
S6	Shacklewell Spinney	SK97610741	Rutl	Temporary trickle	22	3.09	SSSI
S7b	Barsby Brook Spring	SK69561111	Melt	Brook in ditch	10	1.6	none
S7a	Barsby Field Spring	SK69581108	Melt	Man-made field spring	4	1.5	Does not meet LWS on species richness and site quality
S8	Skeffington Wood	SK75570371	Harb	Brook source	23	3.0	SSSI
F9	Swithland Wood	SK53861242	Charn	Seepage-fed carr	43	4.4	SSSI
F10	Ulverscroft Priory	SK50131260	Charn	Spring-fed flush	20	3.2	SSSI
F11	Scam Hazel Marsh	SK33681832	NWL	Spring-fed marsh	45	3.93	LWS 61217. Flush not referred to in citation
F14	Empingham Meadow	SK95740896	Rutl	Spring-fed flush	40	3.83	None - ? grid ref?
F15	Noseley Copse	SP73209970	Harb	Spring-fed carr	43	4.02	none
F16	Hallaton Meadow	SP78279662	Harb	Seep-fed flush	11	2.09	none

***Species Richness.** The number of separate crane-fly species recorded

**** Site Quality Index** - A Rarity Index was produced for each crane-fly species by allocating it a score that depended on the number of sites where it was recorded during this study.

Then Site Quality Index (SQI) = *Total of Species Rarity Indices* divided by *Species richness value*

2. Wildlife Sites designated with reference to 'unmodified spring in woodland'

Table 8.2

	Ref no	Site	Grid ref	Survey date	District	Description
LWS	56374	Clinker Line, Cosby	SP544929	2006	Blaby	Woodland and spring-fed flush.
LWS	25283	Fields south of Ulverscroft Wood	SK490108	2005	Charn	Mesotrophic grassland with spring-fed flush.
LWS	25390	Nowell Spring Wood, Ulverscroft	SK502120	1999	Charn	Ancient semi-natural woodland and several unmodified woodland springs.
LWS	25367	Lubcloud Alder Woodland, Shepshed	SK474164	2002	Charn/NWL	Wet woodland, unmodified springs and brook.
LWS	23326	Tilton Grassland	SK760062	2007	Harb	Mesotrophic grassland and Red Data Book species, with spring-fed flush.
LWS	53651	Sauvey Woodlands, Withcote	SK786052	2003	Harb	Woodland, with spring-fed flush.
LWS	56637	Quenby Wood, Hungarton	SK705059	2006	Harb	Woodland and spring-fed flush adjacent to other LWS.
LWS	56646	Kicklewell Spinney, Laughton	SP656876	2006	Harb	Woodland, mature trees, spring-fed flush and scrub.
LWS	57060	Stackley Barn Scrub/ Stream/ Grassland, Great Glen	SP660988	2006	Harb	Wet grassland, unmodified spring, stream and mature trees - 1 <i>Salix fragilis</i> , 1 <i>Fraxinus excelsior</i> .
LWS	57909	Bushby Spinney, Thurnby	SK660033	2006	Harb	Woodland, with spring-fed flush.
LWS	60108	Rye Close Spinney, Misterton	SP561843	2007	Harb	<i>Carex acutiformis</i> swamp, with spring-fed flush and woodland.
LWS	60109	Winterfield Spinney, Misterton	SP564844	2007	Harb	<i>Phragmites australis</i> reedbed, with spring-fed flush and woodland.
cLWS	56897	Fox Covert / Marsh, Bitteswell	SP540871	2006	Harb	Wet woodland, mature tree and spring

3. Other sites

Table 8.3

SSSI	Botcheston Bog	SK485046		H&B	Wet grassland/bog
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Local Biodiversity Action Plan

Neutral Grassland

Action plan objectives

- **No further loss of existing neutral grassland**
- **Encourage positive management of neutral grassland**
- **Creation of new neutral grassland habitat, through wildflower seeding/green hay-spreading and natural regeneration**
- **Compile and maintain register of sites of local BAP and UKBAP quality**



Introduction

Leicestershire and Rutland were once renowned for their large area of species-rich, 'unimproved' neutral grassland. This grassland is easily damaged by agricultural practices such as ploughing and reseeding or by extensive fertiliser and herbicide treatments. Little of this habitat now remains. 97% was destroyed between 1930 and 1984 and the area remaining has continued to decline in the subsequent 20 years.

Unimproved neutral grassland within Leicestershire and Rutland can be divided into two major types: flood-meadow grasslands and grasslands in drier areas. Flood meadow grasslands are managed traditionally as hay-meadows, while the traditional management of grasslands in drier areas is either as hay-meadow or as pasture.

The habitat also regenerates naturally on some post-industrial, post-mineral and railway land, often in a matrix with other grassland types and habitats; this can be extremely species-rich.

Relatively species-rich habitat meeting the LWS criteria for this grassland has been successfully created on some sites.

Current extent

The most recent register has 928 sites, covering c. 2550 hectares, but it is important to note that it is not based on comprehensive survey, and is inevitably under-estimated. Of this known resource, less than 500 hectares or c.20% are assessed as of high quality and likely to meet UKBAP criteria for this habitat. The register includes SSSIs, Local Wildlife Sites and sites that meet the criteria for designation, and LRWT Nature Reserves. The majority of the information is based on survey data between 2000 and 2012.

Source: K Headley & S Timms (2013) Leicester, Leicestershire and Rutland (VC55) Mesotrophic/Wet Grassland Register, Leicestershire and Rutland Environmental Records Centre (LRERC)

Some characteristic species

Common Knapweed (*Centaurea nigra*), Cowslip (*Primula veris*), Pepper-saxifrage (*Silaum silaus*), Yellow-rattle (*Rhinanthus minor*), Adder's-tongue Fern (*Ophioglossum vulgatum*) and Green-winged Orchid (*Orchis morio*) were all characteristic of species-rich neutral grasslands in Leicestershire and Rutland. All are declining. Many have shown a continuous loss since the 1930s, which has accelerated in recent years. In the 1933 Flora of Leicestershire and Rutland, Green-winged Orchid was described as locally abundant and generally distributed with 79 localities named. By the 1970s this had fallen to 16 sites, of which only 5 remain to the present day. This reflects the steady decline in this species nationally.

The abundance of flowering plants in these meadows provides nectar sources for many invertebrates including butterflies such as the Common Blue (*Polyommatus icarus*) and Meadow Brown (*Maniola jurtina*) and the Chimney Sweeper moth (*Odezia atrata*).

Local Wildlife Site criteria

The Local Wildlife Site grassland criteria have been set to include fairly species-rich semi-improved grasslands. This is because of the known decline in the extent and quality of species-rich grasslands in our area, which in some areas is extremely severe – many Parishes now have negligible amounts of conservation value grassland. Many parts of Leicestershire and Rutland are now largely arable, and much remaining grassland has been heavily improved for pasture or silage.

As an example, grassland can be designated as a LWS if it contains 7 indicator species at an occurrence of Occasional or more. These indicator species may be common grassland species such as Meadow Vetchling, Sorrel, Meadow Buttercup, Field Woodrush, Pignut, Birdsfoot Trefoil, Red Clover, Great Burnet and Meadowsweet. It is disturbing that many parts of Leicestershire and Rutland lack LWS-standard grassland exhibiting even this common range of species.

For this reason, not all the LWS quality grasslands could be considered to be of UKBAP quality and importance, but all LWS quality grasslands are priority local BAP habitats.

Most important factors affecting the habitat

- Agricultural improvement including application of herbicides and fertilizers, ploughing and re-seeding.
- Switch from hay making to silage production and conversion to high production grasslands, through applications of fertilisers and herbicides.
- Lack of management resulting in changes to rank grassland and eventually scrub.

- Change of hay-meadow management to intensive grazing.
- Conversion to arable.
- Loss of sites to built development.

Opportunities

- Changes in management of parks, roadside verges and public open spaces
- Creation of new grassland through mineral restoration, by natural regeneration or habitat creation
- Planning conditions requiring creation or management of habitats within new developments
- Acquisition and beneficial management of land by conservation organisations, especially close to existing areas of habitat
- Advice to owners of sites and habitats

Leicestershire & Rutland Environmental Records Centre

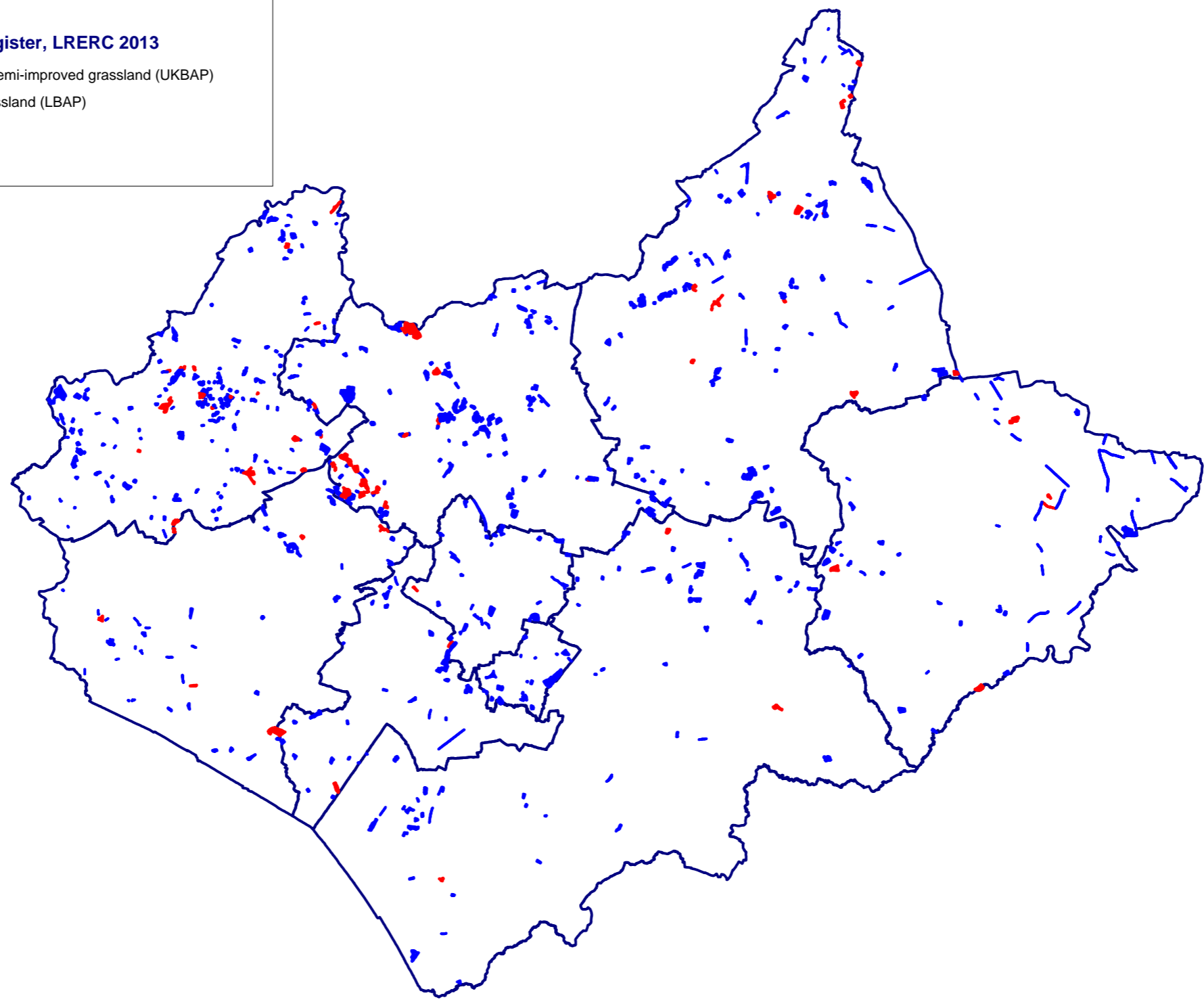
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Map 13: Neutral grassland

Leicester, Leicestershire and Rutland BAP 2016

Neutral (mesotrophic) grassland
source: LL&R Mesotrophic grassland register, LRERC 2013

-  High quality unimproved/very species-rich semi-improved grassland (UKBAP)
-  Moderately species-rich semi-improved grassland (LBAP)



Local Biodiversity Action Plan

Heath Grassland

Action plan objectives

- **No further loss of existing heath-grassland**
- **Restore existing heath-grassland by grazing, bracken control and scrub removal**
- **Create new heathland and heath-grassland**



Introduction

Heath-grassland was once widespread in northwest Leicestershire and east Rutland, but following land-use changes in the 19th century it has become almost entirely confined to Charnwood Forest, with small amounts clinging on at Burbage Common, Luffenham Heath and a few other sites. Heath-grassland contains a high proportion of Leicestershire Red Data Book species, which is a reflection of the rarity and importance of this habitat locally. Charnwood Lodge, Bardon Hill, Bradgate Park, Beacon Hill and Cademan Moor/High Sharpley all support some areas of heathland and acid grassland, and are designated as SSSIs.

Heath-grassland includes true heathland, where dwarf shrubs such as Heather and Bilberry are prominent, and acid grassland which may contain heather and other ericaceous shrubs. It can also survive amongst bracken. It is often in association with *Sphagnum* ponds, bare ground and rock outcrops – see separate Action Plans for these habitats.

Also included are acid grasslands on siliceous soils with areas of bare soil and rock, characterised by the presence of many annuals, as at Croft Hill. Quarry grasslands with a calcifuge flora are also

included, as found on many of the former hard-rock quarries in Charnwood and North-west Leicestershire such as at Hill Hole, Markfield.

Heathland has regenerated naturally on some post-industrial sites associated with former coal-mining and stocking in north-west Leicestershire. Newfield Colliery supports the best of this category; and Heather is an occasional constituent of naturally regenerated scrub/grassland on other sites, as at Lounge in Ashby de la Zouch. Small areas have also been successfully created at Bardon Hill and Bagworth Heath.

Current extent

An inventory was compiled in 2005 (. This has been updated to include acid grassland sites designated as Wildlife Sites. Very small sites (c.0.1ha) and sites where the habitats is scattered or confined to woodlands rides, as in Benscliffe Wood, have not been included, and sites where heath-grassland has now been lost (as at Moira Junction) have not been included.

Information has also been drawn from the national Priority Habitat Inventory (PHI, Natural England, 2014) to produce a distribution map (attached). Note that some sites on the PHI as heathland, lowland dry acid grassland or purple moor-grass/rush pasture have not been included, as they are incorrect.

Acid grassland formed on thin soil associated with hard rock quarries is likely to be under-represented in the Inventory.

Some 300ha of land with acid or heath grassland are designated as Wildlife Sites, usually in association with other habitats such as woodland, scrub and neutral grassland. A lot of grassland is transitional in nature between acid and neutral grassland, and the amount of true heath-grassland designated as LWS is probably closer to 100ha.

Some 400ha of heath-grassland is estimated to occur on SSSIs, and therefore the total resource may be less than 500ha.

Some characteristic species

Where bracken has not become dominant, heath-grassland in Leicestershire is characterised by grasses such as Common Bent (*Agrostis capillaris*), Purple Moor-grass (*Molinia caerulea*) and Matgrass (*Nardus stricta*). Heather (*Calluna vulgaris*), Bilberry (*Vaccinium myrtillus*) and Cross-leaved Heath (*Erica tetralix*) are uncommon. Bare ground on the drier heaths is particularly important for invertebrate species such as the Green Tiger Beetle (*Cicindela campestris*).

Where the soil is more poorly drained, rushes and sedges are frequent. Here also can be found pools containing *Sphagnum* moss, another BAP priority habitat, now mainly confined to Charnwood Lodge. Characteristic butterfly species include Small Copper, Brown Argus, Green Hairstreak, Wall and Small Heath.

Larger areas of heath-grassland, as at Bradgate Park, also support adder, and ponds within the habitat can have Palmate Newt, as at Beacon Hill. Both species are now rare in Leicestershire and Rutland.

Local Wildlife Site criteria

Heathland sites must cover an area of over 1 ha in which heather (*Calluna vulgaris*, *Erica cinerea*, *Erica tetralix*) or bilberry (*Vaccinium* sp.) either individually or in combination have at least 25% cover. Acid grasslands should be at least 1000m² in extent, in which at least 3 of the species below should be Frequent, Abundant or Dominant, or at least 5 species should be present.

<i>Agrostis capillaris</i> , Common bent	<i>Juncus squarrosus</i> , Heath rush
<i>Calluna vulgaris</i> , Ling	<i>Lathyrus linifolius</i> var. <i>montanus</i> , Bitter vetch
<i>Campanula rotundifolia</i> , Harebell	<i>Luzula multiflora</i> , Heath woodrush
<i>Danthonia decumbens</i> , Heath grass	<i>Nardus stricta</i> , Mat grass
<i>Deschampsia flexuosa</i> , Wavy hair-grass	<i>Potentilla erecta</i> , Tormentil
<i>Erica tetralix</i> , Cross-leaved Heath	<i>Rumex acetosella</i> , Sheep's sorrel
<i>Festuca ovina</i> , Sheep's fescue	<i>Vaccinium myrtillus</i> , Bilberry
<i>Galium saxatile</i> , Heath bedstraw	

Most important factors affecting the habitat

- Lack of management, especially grazing, leading to scrub invasion
- Spread of bracken
- Nutrient enrichment
- Recreation pressure

Opportunities

- Creation and natural regeneration of heathland and acid grassland on post-industrial and former minerals and coal industry sites.

Inventory of Acid grassland, heath grassland and heathland in Leicestershire and Rutland LRERC, 2016

Sources:

National Priority Habitat Inventory (NE, 2014)

Wildlife Sites Register (LRERC, 2016)

SSSI condition assessments (<https://designatedsites.naturalengland.org.uk/>)

Habitat	Site	Distri ct	Status	Source of info	Grid ref	Date last survey	Area (ha)	Condition
Acid grassland	Croft Hill	Blaby	SSSI	PHI	SP509966	2008	2	Favourable (NE) - cattle-grazed
Acid grassland	Croft Pasture	Blaby	SSSI	PHI	SK509958	2010	5.7	Favourable (NE)
Heath grassland	Longcliffe golf-course	Charn	LWS 25383	PHI/LWS Register	SK496174	2009	36.6	
Heathland	Hangingstone Hill	Charn	SSSI	PHI	SK521152	2014	15.77	Unfavourable, recovering (NE)
Heathland	Beacon Hill	Charn	SSSI/LCC Country Park	PHI	SK512147	2013	26.5	Unfavourable recovering; grazing introduced. Bracken needs control (NE)
Acid grassland	Bradgate Park	Charn	SSSI	PHI	SK5310	2015	195.3	Unfavourable, recovering with bracken control/deer management (NE)
Acid grassland	Ulverscroft	Charn	SSSI/LRWT Reserve	PHI	SK491128	2010/1 2	9.2	Unfavourable/recovering (NE) following tree removal
Acid grassland	Iveshead	Charn	SSSI (part)/ LWS	PHI/LWS Register	SK475170	2012	22.6	
Acid grassland	Roecliffe Manor grasslands	Charn	LWS 12751	LWS Register	SK530124	2005	2.9	
Acid grassland	Morley Quarry	Charn	LWS 25273	LWS Register	SK476179	2001	2.2	
Acid grassland	Morley Lane field	Charn	LWS 25281	LWS Register	SK477179	2005	1.9	
Acid grassland	Blackbrook Reservoir field	Charn	LWS 25365	LWS Register	SK467171	2002	6.5	
Acid grassland	Buck Hill	Charn	LWS 25392	LWS Register	SK507163	2002	25.1	

Habitat	Site	Distri ct	Status	Source of info	Grid ref	Date last survey	Area (ha)	Condition
Acid grassland	Newtown Linford, Christmas Tree field	Charn	LWS 25399	LWS Register	SK516107	2000	0.6	
Acid grassland	Hallgates covered reservoirs	Charn	LWS 57976	LWS Register	SK533115	2005	1.8	
Acid grassland	Blackbird's Nest	Charn	LWS 25405	LWS Register	SK513156	2002	0.6	
Acid grassland	Mountsorrel, Castle Hill	Charn	LWS 25498	LWS Register	SK581148	2001	0.4	
Acid grassland (in woodland)	Nanpantan Hall Wood	Charn	LWS 49415	LWS Register	SK500168	2004	0.4	
Created heathland	Bagworth Beacon Hill	Charn	cLWS 90365	cLWS Register	SK442085	2010	0.1	Created in early 1990s; needs management
Created heathland	Bagworth Heath	Charn	cLWS 90370	cLWS Register	SK463068	2012	0.1	Created in early 1990s; spreading
Acid grassland	Billa Barra	H&B	LWS 72527/LNR	PHI/LWS Register	SK467114	2008	1.2	
Acid grassland	Burbage Common	H&B	LWS 25865	PHI/LWS Register	SK4495	2003	20.9	
Acid grassland (quarry)	Hill Hole Quarry	H&B	LWS 72528	LWS Register	SK485102	2008	1.7	
Acid grassland	Altarstone/Rauncliffe	H&B	LWS 54201/80053	LWS Register	SK484108	2010	4.2	
Acid grassland	Croxton Park	Melt	SSSI	PHI	SK4828	2014	39.9	Significant part unfavourable, but recovering, due to undergrazing
Acid grassland	Dimminsdale	NWL	SSSI/LRWT Reserve	PHI	SK376215	2014	9.5	Unfavourable recovering (NE)
Acid grassland	Cademan Moor	NWL	SSSI	PHI	SK475131	2015	5.7	Unfavourable and declining, due to under threat from woodland/scrub invasion and lack of grazing. At risk of complete loss. (NE)
Heathland	Newfield Colliery/Hick's Lodge	NWL	LWS 62500	PHI/LWS Register	SK322156	2013	1.7	

Habitat	Site	Distri ct	Status	Source of info	Grid ref	Date last survey	Area (ha)	Condition
Acid grassland	High Sharpley	NWL	SSSI	PHI	SK446171	2015	12.2	Unfavourable, declining. Bracken/ scrub/woodland invasion. At risk of complete loss.
Heathland	Bardon Hill	NWL	SSSI	PHI	SK460131	2012	2.36	Unfavourable, recovering
Heath grassland	Charnwood Lodge	NWL	SSSI/NNR/LR WT Reserve	PHI	SK4615	2011	68.5	Unfavourable, recovering (NE)
Acid grassland	Stonepit Field/Stonerows	NWL	LWS 39270	LWS Register	SK318149	2008	3.9	
Acid grassland	Ratchet Hill	NWL	LWS 80086	LWS Register	SK446163	2012	1	
Created heathland	Bardon Hill, new heath	NWL	cLWS 90927	cLWS Register	SK463122	2014	1.2	Created in early 2000s; good condition.
Heathland	Luffenham Heath	Rutl	SSSI	PHI	SK959022	2009	32.8	Unfavourable (NE)

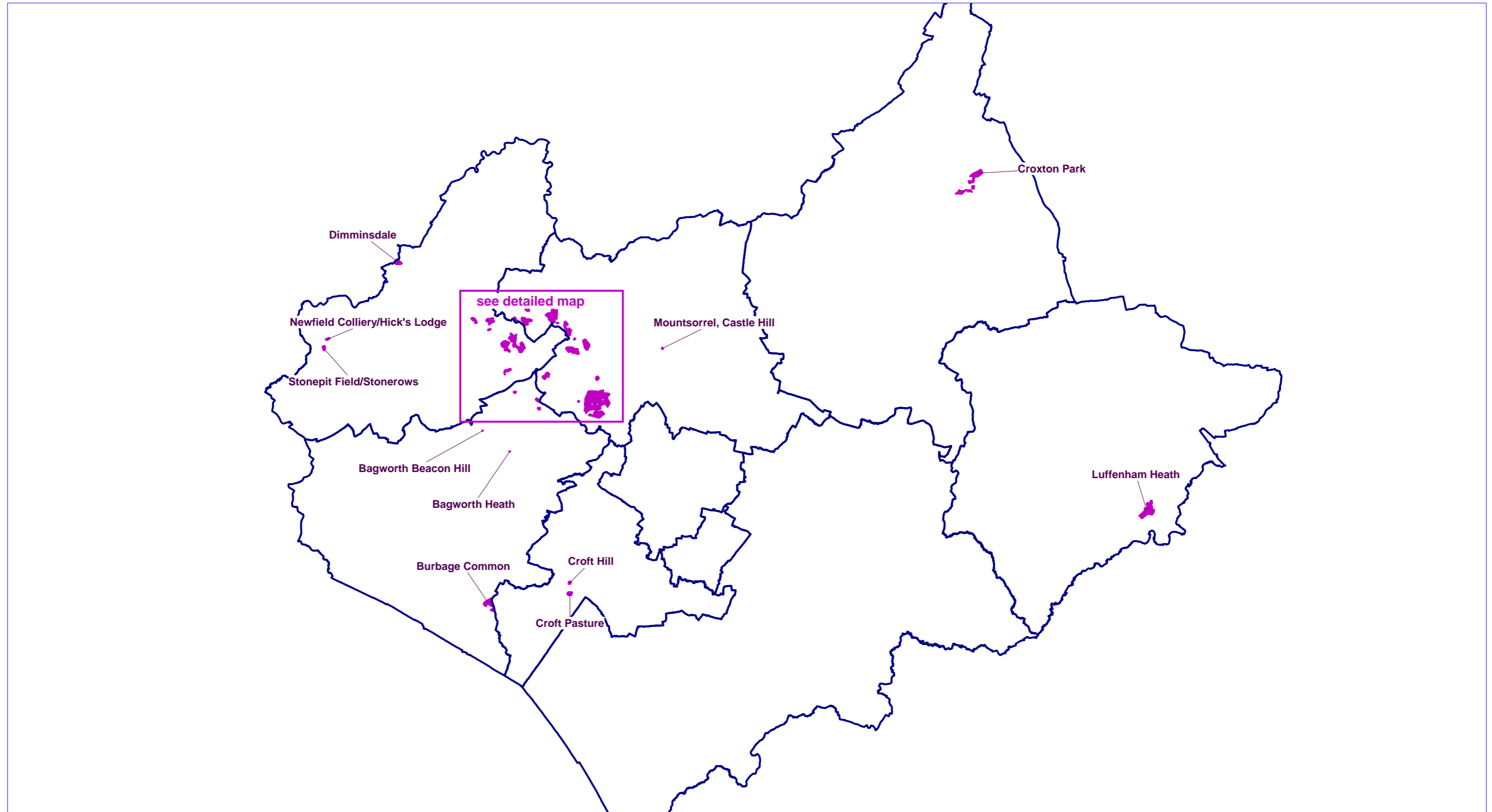
Compiled by LRERC, January 2016

Leicestershire & Rutland Environmental Records Centre

Leicestershire County Council

Map 14.1: Heathland and acid grassland

Leicester, Leicestershire and Rutland BAP 2016

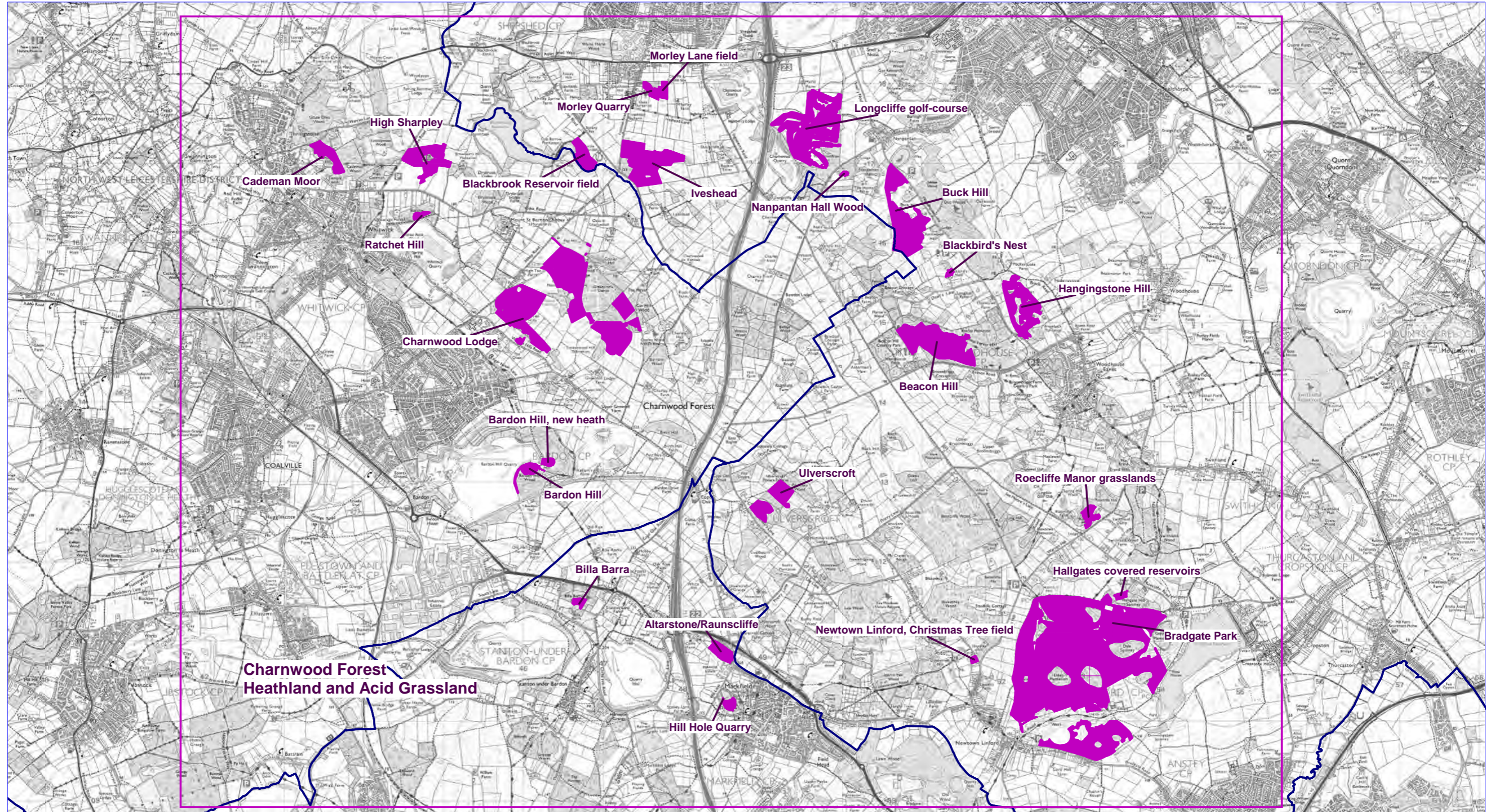


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Map 14.2: Heathland and acid grassland Charnwood Forest

Leicester, Leicestershire and Rutland BAP 2016



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Local Biodiversity Action Plan

Calcareous Grassland

Action plan objectives

- **No further loss of existing calcareous grassland**
- **Encourage positive management of calcareous grassland**
- **Creation of new calcareous grasslands through natural regeneration in limestone areas**
- **Compile and maintain register of sites of local BAP and UKBAP quality**



Introduction

In Leicestershire and Rutland, calcareous grassland is largely confined to the Jurassic Oolitic limestone in east Rutland and northeast Leicestershire. There are important calcareous grasslands in former quarries – e.g. at Ketton, Geeston Quarry, Clipsham, Stonesby, and Stamford Quarry in Great Casterton. Some churchyards, as at Tixover, and many roadside verges in Rutland are calcareous grassland, and a significant amount of the habitat survives at Luffenham Heath golf-course. North of Melton, the habitat is mainly found in the Belvoir area, as at Terrace Hills. Large numbers of scarce species are associated with this habitat, particularly flowering plants, beetles and other invertebrates.

Outside the Jurassic limestone area, calcareous grassland is rare, but does occur occasionally on post-industrial sites, as at Asfordby, and on railway lines, as at Wigston Triangle. Breedon Hill is one of six inliers of the Peak Limestone Group (informally known as the Carboniferous Limestone) in North West Leicestershire, and limestone is quarried here and at nearby Cloud Wood.

Current extent

A draft Inventory is attached, compiled from LWS register and the Priority Habitats Inventory.

It is likely that most of the roadside verge grasslands on the Oolitic limestone with calcareous grassland have been designated as Local Wildlife Sites. Currently, over 60 kilometres, chiefly in Rutland, are identified. About 25 hectares of former quarry are also designated as LWS.

There are 11 SSSIs notified for this habitat: Ketton Quarry, Bloody Oaks Quarry, King Luds Entrenchments and The Drift, Breedon Hill, Luffenham Heath Golf-course, North Luffenham disused quarry, Ryhall pastures, Terrace Hills, Tolethorpe verges, Clipsham Old Quarry and Stonesby Quarry.

In total the area of calcareous grassland is estimated as less than 200 hectares.

Some characteristic species

Calcareous grassland is particularly noted for the large number of flowering plant species associated with it. Locally Pyramidal Orchid (*Anacamptis pyramidalis*) is declining, while Frog Orchid (*Coeloglossum viride*) is now known from only one site. Other species of conservation importance are Sulphur Clover (*Trifolium ochroleucon*), Chalk Milkwort (*Polygala calcarea*), and the easily overlooked grass, Mat-grass Fescue (*Vulpia unilateralis*). Greater Knapweed (*Centaurea scabiosa*), Knapweed Broomrape (*Orobanche elatior*), Small Scabious (*Scabiosa columbaria*), Clustered Bellflower (*Campanula glomerata*), Marjoram (*Origanum vulgare*), Salad Burnet (*Sanguisorba minor*), Purging Flax (*Linum catharticum*), Yellow-wort (*Blackstonia perfoliata*) and Hoary Plantain (*Plantago media*) are amongst the other species associated with the habitat.

More common species such as Bird's-foot Trefoil (*Lotus corniculatus*) and Creeping Cinquefoil (*Potentilla reptans*) are important nectar sources for moth and butterfly species. The two named are food plants for Dingy (*Erynnis tages*) and Grizzled (*Pyrgus malvae*) Skipper respectively. These two butterflies are declining as a result of loss of habitat due to development or lack of appropriate management. More details can be found the Species Action Plan for these butterflies. Similar factors affect the Glow-worm (*Lampyrus noctiluca*). Other characteristic butterfly and moth species are Brown Argus, Marbled White, Chalk Carpet and Square-spotted Clay.

Local Wildlife Site criteria

Sites are designated under the following criteria:

Calcareous grasslands should be at least 2500m² or 200m of linear habitat in extent, in which at least 5 of the species in this list (J) should be present.

<i>Agrimonia eupatoria</i> , Agrimony	<i>Inula conyzae</i> , Ploughman's spikenard
<i>Anacamptis pyramidalis</i> , Pyramidal orchid	<i>Knautia arvensis</i> , Field scabious
<i>Anthyllis vulneraria</i> , Kidney vetch	<i>Linum catharticum</i> , Purging flax
<i>Blackstonia perfoliata</i> , Yellow-wort	<i>Ononis</i> sp., Rest-harrow
<i>Campanula glomerata</i> , Clustered bellflower	<i>Ophrys apifera</i> , Bee orchid
<i>Centaurea scabiosa</i> , Greater knapweed	<i>Origanum vulgare</i> , Marjoram
<i>Clinopodium vulgare</i> , Wild basil	<i>Orobanche elatior</i> , Knapweed broomrape
<i>Echium vulgare</i> , Viper's bugloss	<i>Pimpinella saxifraga</i> , Burnet saxifrage
<i>Erigeron acer</i> , Blue fleabane	<i>Plantago media</i> , Hoary plantain
<i>Euphrasia</i> sp., Eyebright	<i>Poterium sanguisorba</i> , Salad burnet
<i>Gentianella amarella</i> , Autumn gentian	<i>Scabiosa columbaria</i> , Small scabious
<i>Helianthemum nummularium</i> , Rock-rose	<i>Thymus</i> sp., Thyme

Most important factors affecting the habitat

- Small, isolated nature of remaining habitat
- Lack of management, especially grazing, leading to invasion by scrub and vigorous grasses
- Inappropriate management of roadside verge sites
- Nutrient enrichment

Opportunities

- Changes in roadside verge management, to include collection of arisings.
- Restoration and natural regeneration of former quarries and limestone workings.



Inventory of Calcareous grassland in Leicestershire and Rutland LRERC, January 2016

Sources: WS Register held by LRERC; NE's Priority Habitats Inventory, 2014

*SSSI = Site of Special Scientific Interest

*LWS = Local Wildlife Site (c = Candidate)

*PHI - Priority Habitats Inventory

**RV= Roadside verge

*Designation	Site name	**RV	Ref No	District/County	Last survey	Grid ref
cLWS	Dismantled Railway & Whetstone Gorse		60028	Blaby	2007	SP563944
cLWS	Sauvey Castle - grassland		91097	Harb	2009	SK787052
LWS	Evington Park - Ethel Road Verge	Y	26176	Leicester	2012	SK622035
part LWS	Asfordby, Holwell works		PHI/ 39275	Melton	2007	SK7219
LWS	Brown's Hill and Mineral Line		80052	Melton	2010	SK739235
SSSI	Terrace Hills Pasture		PHI	Melton	1986	SK795310
SSSI	Stonesby Quarry		PHI	Melton	1992	SK812251
SSSI	King Lud's Entrenchment		PHI	Melton	1992	SK865278
SSSI	The Drift	Y	PHI	Melton		SK865291
LWS	Skillington Verge	Y	80011	Melton	2008	SK872252
LWS	Thistleton north verge	Y	80059	Melton	2014	SK901186
SSSI	Breedon Hill		PHI	NWL		SK404232
cLWS	Castle Donington Pasture, Woodland & Stream		62239	NWL	2014	SK455272
LWS	Piper Wood Roadside Verge Nature Reserve	Y	39756	NWL	2014	SK475221
LWS	Wigston Triangle		26200	O&W	2002	SP592988
SSSI	Ryhall Pasture		PHI	Rutland	1990	SK026135
SSSI	Debdale Meadow verge		PHI	Rutland	1994	SK836394
LWS	Greetham Roadside Verge Nature Reserve	Y	33103	Rutland	2008	SK922159
LWS	Hooby Lane roadside verge, Stretton/Greetham	Y	37342	Rutland	2008	SK926164
LWS	Thistleton Roadside Verge Nature Reserve	Y	33357	Rutland	2006	SK926176
LWS	North Luffenham roadside verge (E), adj R Chater	Y	80113	Rutland	2014	SK929030
LWS	Exton RVNR (crossroads at S Exton to Loves Lane crossroads - both sides)	Y	33102	Rutland	2007	SK929104
LWS	Hooby Lane verge, near Greetham	Y	80060	Rutland	2010	SK930164
cLWS	Barrowden/S Luffenham: A47 roadside verge	Y	90962	Rutland	2014	SK932003
LWS	Empingham to Exton road verges	Y	80061	Rutland	2010	SK946094
LWS	Barrowden Roadside Verge Nature Reserve (1)	Y	32984	Rutland	2007	SK947006
SSSI	Luffenham Heath		PHI	Rutland		SK9502
LWS	Normanton/ Edith Weston Verge N of Bluebottle cottage (south side)	Y	36945	Rutland	2008	SK955056
LWS	Normanton/Edith Weston Verge N of Bluebottle Cottage (north side)	Y	36946	Rutland	2008	SK955056
LWS	Empingham Verge N of Woodside Farm (E side)	Y	36954	Rutland	2008	SK955072
LWS	Normanton/Edith Weston Verge S of New Wood (east side)	Y	27281	Rutland	2008	SK956059
SSSI	Empingham Marshy Meadows		PHI	Rutland		SK956091
LWS	Empingham Estate Roadside verge	Y	80055	Rutland	2011	SK956103
LWS	Edith Weston Verge	Y	27279	Rutland	2008	SK957055
LWS	Empingham RVNR W of Cross Roads Farm (both sides)	Y	32993	Rutland	2008	SK959100
SSSI	North Luffenham Quarry		PHI	Rutland	1989	SK962036

*Designation	Site name	**RV	Ref No	District/County	Last survey	Grid ref
LWS	Empingham verge (S of Crossroads Farm) west side	Y	36955	Rutland	2008	SK962094
LWS	Empingham Old Wood		PHI/ 38780/ 54401	Rutland	2012	SK962106
LWS	Rutland County golf-club (A1) verge - north	Y	80064	Rutland	2009	SK962123
cLWS	Clipsham/Woolfox tracks and species-rich grassland		91189	Rutland	2010	SK966140
LWS	Clipsham Bidwell Lane verge	Y	80065	Rutland	2010	SK966157
cLWS	Empingham Roadside Verge	Y	38365	Rutland	2008	SK967101
LWS	Grassland in 3-corner Plantation		49623	Rutland	2010	SK968107
cLWS	Big Pits Quarry		91088	Rutland	2005	SK968144
cLWS	Clipsham woodland track, Bidwell Lane		27287	Rutland	2008	SK968147
LWS	Empingham crossroads to Bloody Oaks verge	Y	80062	Rutland	2009	SK969105
LWS	Rutland County golf-club (A1) verge - south	Y	80063	Rutland	2009	SK970116
SSSI	Ketton Quarry		PHI	Rutland	1989	SK9705
SSSI	Bloody Oaks Quarry		PHI	Rutland	1989	SK971108
LWS	Empingham (Bloody Oaks) Roadside Verge Nature Reserve	Y	33019	Rutland	2007	SK972111
cLWS	Ketton disused quarry		36975	Rutland	2003	SK976025
SSSI	Shacklewell Hollow		PHI	Rutland	1990	SK977078
LWS	Ketton Roadside Verge Nature Reserve	Y	33355	Rutland	2006	SK978032
cLWS	Geeston Quarry		36976	Rutland	2003	SK981037
SSSI	Clipsham Old Quarry		PHI	Rutland		SK981153
LWS	Clipsham New Quarry (West)		58793	Rutland	2007	SK985159
LWS	Clipsham New Quarry (East)		58794	Rutland	2007	SK986159
cLWS	Church Bank Pickworth		38375	Rutland	2009	SK992137
LWS	Tinwell Roadside Verge (east side)	Y	36951	Rutland	2008	SK995078
LWS	Tinwell Roadside Verge (west side)	Y	36952	Rutland	2008	SK995078
LWS	A1 Old Gt N Rd slip-road, Great Casterton	Y	27277	Rutland	2008	SK995093
LWS	Pickworth Road RVNR east: N of Mounts Lodge	Y	37675	Rutland	2008	SK998123
LWS	Verge N of The Grange (east side)	Y	37673	Rutland	2008	SK998144
LWS	Pickworth Road RVNR (East) S of Mounts Lodge	Y	27275	Rutland	2008	SK999102
LWS	Pickworth Road RVNR (west) S of Mounts Lodge	Y	27276	Rutland	2008	SK999102
LWS	Tixover Church graveyard		37349	Rutland	2008	SP970997
LWS	The Drift, Pickworth (north side)	Y	37678	Rutland	2008	TF001134
LWS	The Drift, Pickworth (south side)	Y	37679	Rutland	2008	TF001134
LWS	Great Casterton A1-A606 verge	Y	80051	Rutland	2010	TF006073
LWS	Great Casterton A1-A606 verge (north)	Y	80066	Rutland	2011	TF007074
LWS	The Drift Verge, Ryhall (north side)	Y	37670	Rutland	2008	TF011132
cLWS	Stamford Quarry		91099	Rutland	2009	TF014081
LWS	The Drift Verge, Ryhall (south side)	Y	37669	Rutland	2008	TF015129
LWS	Little Casterton Verge (west)	Y	37360	Rutland	2008	TF016090
LWS	Little Casterton Verge (east)	Y	37355	Rutland	2008	TF017089
SSSI/LWS	Tolethorpe Rd verges	Y	PHI/ 80057/ 80056	Rutland	1990	TF017105
cLWS	Verge in Ryhall	Y	37665	Rutland	2003	TF020137
LWS	Ryhall RVNR: Crossroads to the Drift junction (west side)	Y	33356	Rutland	2007	TF030132
LWS	Ryhall verge (B1176): from crossroads to Ryhall Farm Cottage track (east side)	Y	37664	Rutland	2008	TF031130

*Design- ation	Site name	** RV	Ref No	District/ County	Last survey	Grid ref
LWS	Ryhall Verge: The Drift junction to Ryhall Farm Cottage track (west side)	Y	37663	Rutland	2008	TF032125
LWS	Carlby/Essendine verge	Y	80058	Rutland	2009	TF037132
LWS	Essendine, Dismantled Railway Embankment		37364	Rutland	2008	TF050118

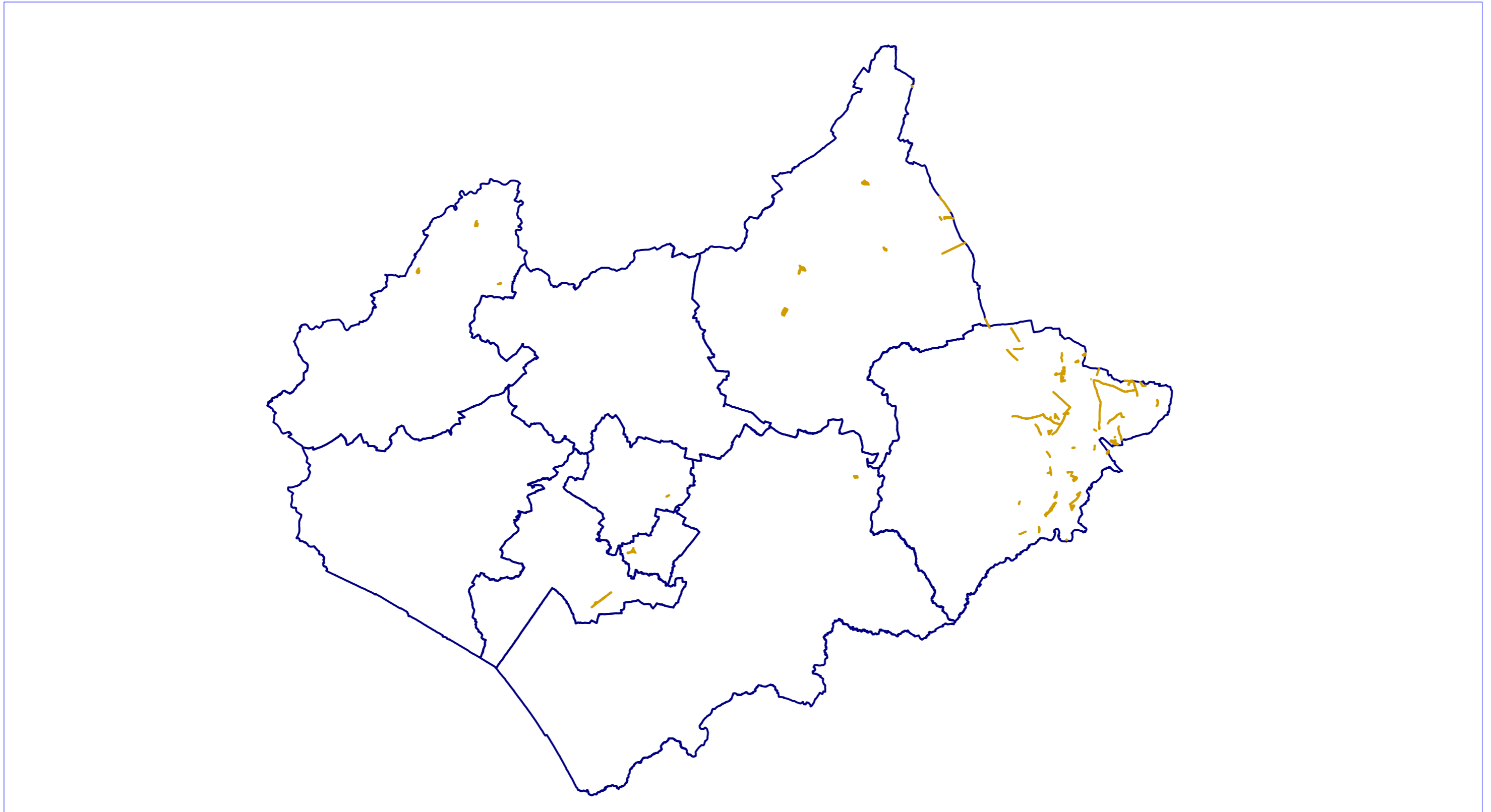
Compiled by LRERC, January 2016

Leicestershire & Rutland Environmental Records Centre

Leicestershire County Council

Map 15.1: Calcareous grassland

Leicester, Leicestershire and Rutland BAP 2016



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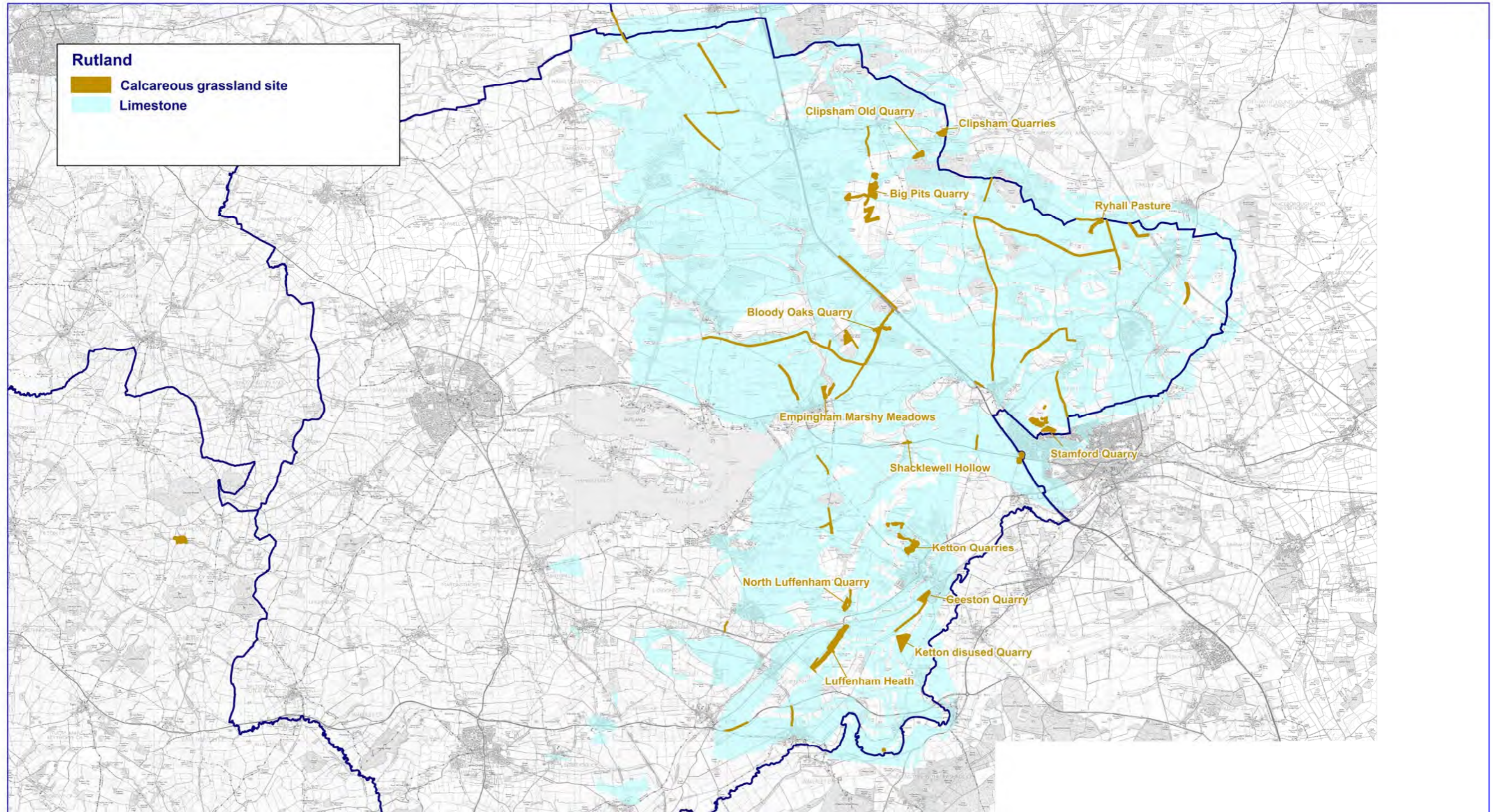
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Map 15.2: Rutland limestone and calcareous grassland

Leicester, Leicestershire and Rutland BAP 2016

Scale 1: 100,000



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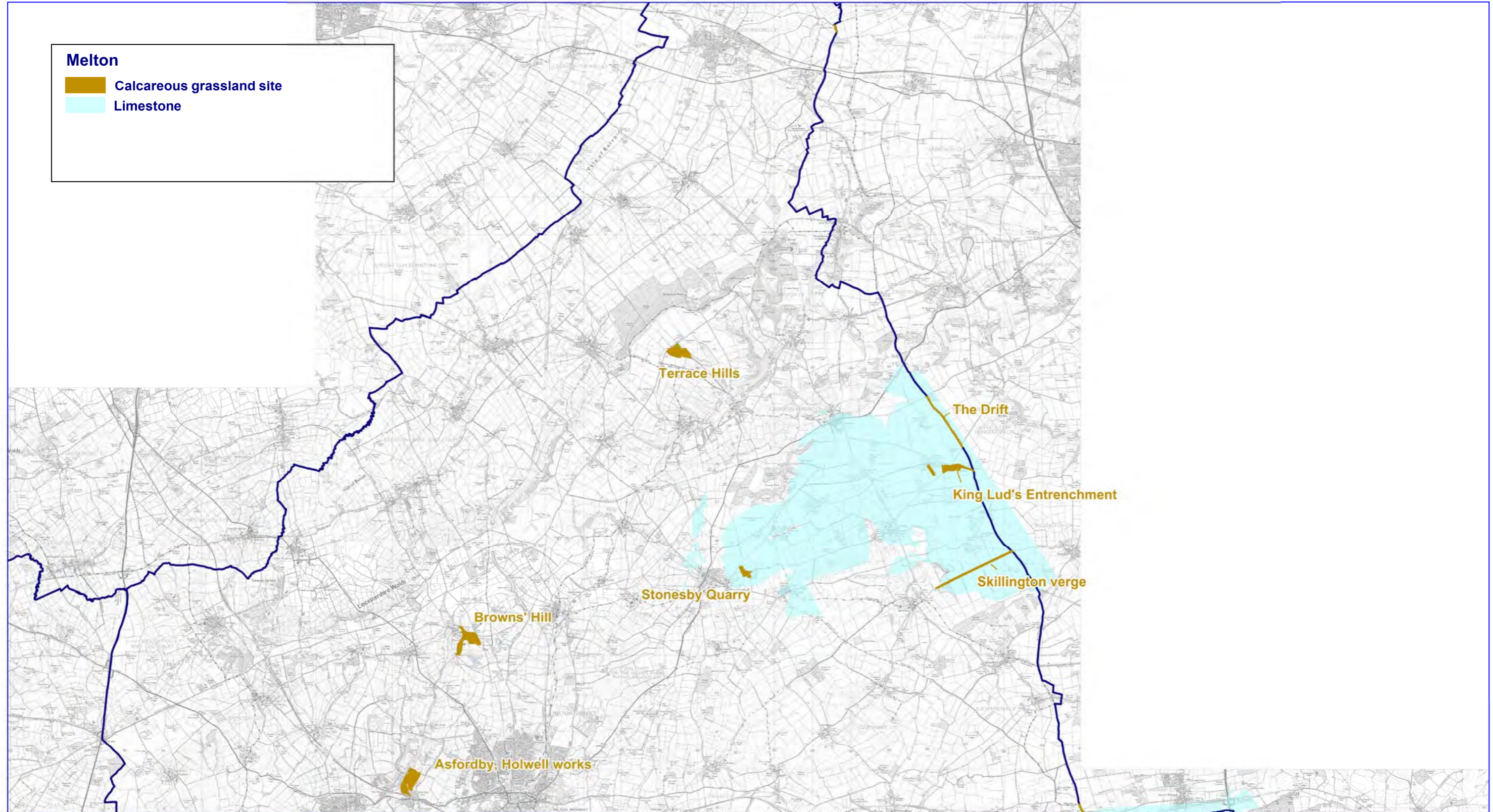
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Map 15.3: Melton limestone and calcareous grassland

Leicester, Leicestershire and Rutland BAP 2016

Scale 1: 100,000



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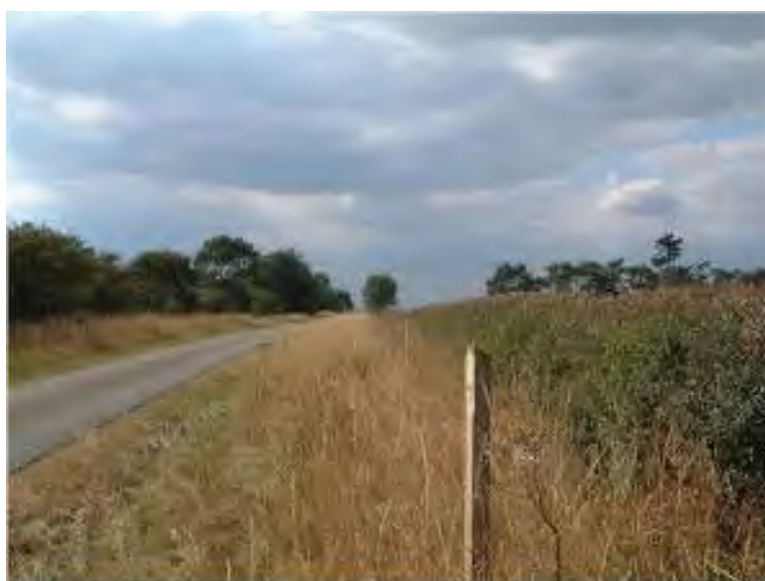
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Local Biodiversity Action Plan

Roadside verges

Action plan objectives

- **Promote sympathetic management of roadside verges meeting LWS criteria**
- **Compile and maintain register of verges meeting LWS criteria**



Introduction

A roadside verge is defined here as that part of the highway which lies on either side of a road and is confined by a boundary, usually a hedgerow, wall or fence and often incorporates a ditch of variable depth and width. In Leicestershire and Rutland it is calculated that there are about 10,200 km of roadside verge with a minimum area of over 2000 ha. Grassland verges can hold valuable communities of plants and animals. In many areas verges may represent the last remaining examples of unimproved neutral or calcareous grassland, (covered by separate Habitat Action Plans).

4 verges are SSSIs: Ryhall (Little Warren verges), part in Lincolnshire; Tolethorpe Road verges (both sides of road); and adjacent to Twenty Acre Piece.

Current extent

A recent Inventory has not been compiled.

A survey of 1992/93 by the Museums Services of Leicestershire County Council identified 199 roadside verges worthy of conservation management, covering 116.45km. Some were designated as 'Roadside Verge Nature Reserves', and were signposted on site; this includes 24 RVNRs in Rutland. Many of these, and other verges, have since been designated as Wildlife Sites.

Currently there are over 100km of verge with a Wildlife Site designation, designated since 2000, and 4km designated as SSSI.

Some characteristic species

Plants characteristic of unimproved grassland such as Common Knapweed (*Centaurea nigra*) and Meadow Crane's-bill (*Geranium pratense*) can also be found on roadside verges in Leicestershire and Rutland. Other plants such as the parasitic Knapweed Broomrape (*Orobanche elatior*) and Sulphur Clover (*Trifolium ochroleucon*) are now almost totally confined to verges in the two counties. Another notable species is the Glow-worm (*Lampyris noctiluca*).

Local Wildlife Site criteria

There are no specific LWS criteria for roadside verges, but they are usually designated because they meet the grassland criteria, as long as they are at 200m in length. Glow-worm verges are designated using the local Red Data Brook species criteria, as the habitat favoured by Glow-worm may not be diverse enough to meet LWS grassland standards.

Most important factors affecting the habitat

- Eutrophication due to fertiliser applications to adjacent agricultural land and nitrous oxides from vehicle exhaust fumes
- Inappropriate mowing regimes.
- Road widening and maintenance work.
- Loss of native species as a result of inappropriate planting and the spread and growth of scrub vegetation.

Opportunities

- Roadside verge management by the local and national Highways Authorities

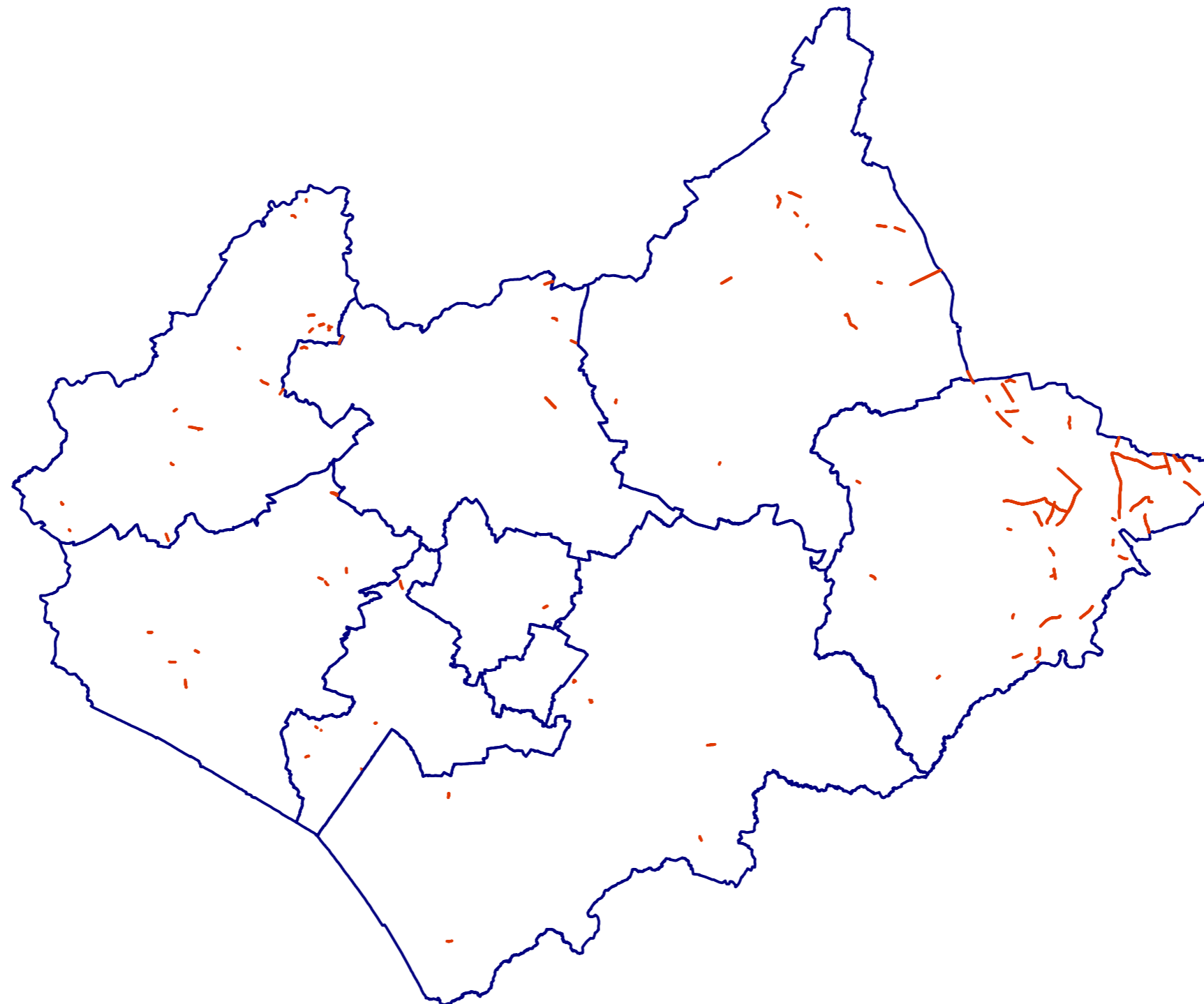
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Leicester, Leicestershire and Rutland

Map 16: Roadside verges

Source: Local Wildlife Site register

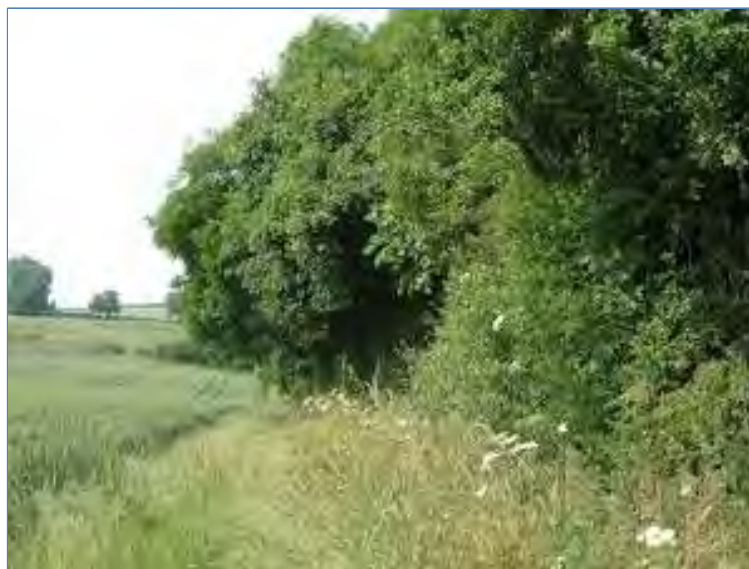


Local Biodiversity Action Plan

Field Margins

Action plan objectives

- **Promote creation and management of field margin habitat for wildlife**



Introduction

Arable field margins act as a buffer zone between the field boundary and the crop or road, and form important wildlife corridors between species-rich areas. In Leicestershire and Rutland, field margins are a key habitat for a number of Red Data Book species, including many farmland birds, arable plants and insects. Flower-rich field margins are important reservoirs for pollinating insects. The structural condition of a field margin is extremely important for biodiversity along with the presence of associated features such as hedgerows, ditches, walls or watercourses.

Current extent

We have no information on the current extent of species-rich field margins.

Some characteristic species

Arable weeds are one of the most threatened categories of plant in the UK. Species like the Cornflower (*Centaurea cyanus*) disappeared from Leicestershire and Rutland long ago. Other once common plants, including Corn Marigold (*Chrysanthemum segetum*), Shepherd's Needle (*Scandix pecten-veneris*) and even Common Poppy (*Papaver rhoeas*) are becoming increasingly rare. Seeds from arable weeds, such as Fat Hen (*Chenopodium album*), are an important food source for many

species of farmland bird. Birds such as Grey Partridge (*Perdix perdix*) Corn Bunting (*Emberiza calandra*) and Skylark (*Alauda arvensis*) benefit from sympathetic management of arable field margins. Characteristic butterfly species include Small Skipper, Gatekeeper and Ringlet.

Local Wildlife Site criteria

The criteria for designation of this habitat have never been used, although some fields in Rutland are known which would meet the criteria. They are based on the presence of a number of key indicator species, some of which have limited distribution in Leicestershire and Rutland, and it is unlikely that many fields outside the limestone areas in Rutland would meet the criteria.

Most important factors affecting the habitat

- Ploughing/cultivation right up to the base of the field margin.
- Spray drift of fertilisers and pesticides.
- Over-management to keep field margins 'neat and tidy'.

Opportunities

Countryside stewardship includes options for flower-rich margins and plots, fallow land, farmland bird habitats and for increasing nectar and pollen resources on farmland.

(NB – This has replaced the former Entry-level and Higher-level Stewardship options)

Local Biodiversity Action Plan

Rocks and Built Structures

Action plan objectives

- Identify and advise on rocks and built structures meeting LWS criteria



Introduction

Rock and built structure habitats in Leicestershire and Rutland are of two types; natural outcrops, scree slopes, shingle and stony ground, and man-made habitats including quarries, walls, pavements, roofs, culverts, grave stones, wood and ironwork, ballast and bridges. All of these habitats can be of value to fauna and flora, especially lichens and bryophytes.

Current extent

An Inventory has never been compiled.

Some characteristic species

Over 300 species of lichen have been recorded from rock outcrops in the Counties. About 70-80 lichen species can be expected from a local churchyard. Ferns such as Common Polypody (*Polypodium vulgare*) and the locally scarce Rustyback (*Ceterach officinarum*) are also dependent on rocks and built structures, as are cliff-dwelling birds such as Peregrine *Falco peregrinus* and House Martin *Delichon urbica*. The Wall is a typical butterfly species associated with this habitat.

Local Wildlife Site criteria

Sites can be designated on the basis of an assemblage of lichens, ferns or annual vascular plants. The habitat has most often been identified in association with other habitats, such as Heath-grassland.

Most important factors affecting the habitat

- Air pollution.
- Trampling of plant communities by people and animals.
- Reduction of grazing leading to woodland development with consequent over-shading of cryptogamic flora.
- Indiscriminate tree planting also leading to over-shading of rock habitats.
- Spraying of chemicals and agricultural dusts.
- Damage by fire.
- Use of quarries for landfill.
- Cleaning of walls and grave stones.
- Unsympathetic rebuilding of drystone walls.

Opportunities

- Quarry restoration and regeneration plans
- Countryside Stewardship option for dry-stone wall repair, maintenance and creation



Local Biodiversity Action Plan

Urban Habitats Action plan objectives

- **Improve the value of wildlife corridors and the biodiversity network throughout Leicester**
- **Improve access to existing information on Leicester's biodiversity**
- **Encourage the monitoring and recording of wildlife within Leicester**
- **Draw attention to the need to make greenspace and natural areas accessible to the citizens of Leicester**
- **Develop Leicester's existing network of nature reserves**

Introduction

Leicester is the largest city in the East Midlands, the traditional county town of Leicestershire, and, since 1997, has been a self-governing unitary authority. It is the 13th largest city in the UK, covering 75 km² and is located at the centre of the county. The wider conurbation of Leicester, which includes the satellite towns of Oadby, Wigston, Braunstone Town, Birstall, Glenfield, Blaby, Thurmaston, Syston and Leicester Forest East, is home to 65% of Leicestershire's population and is very culturally and economically diverse.

The city is bisected north to south by the River Soar and the Grand Union canal: these and their tributary streams serve as important wildlife corridors, along with the two railway lines. Although the majority of the land area in Leicester (~54%) is still classified as 'green space', planned major developments, especially to the north, are set to reduce this considerably, and much of what will remain is of limited biodiversity value.

Like most UK cities private gardens are the single largest land use, covering almost 2000 ha or 27% of the city area, but compared to other cities of its size Leicester has relatively little brownfield ('urban commons') sites having lost most to completed development at the city centre.

Leicester City has its own Biodiversity Action Plan 2011 – 2021.

<https://www.leicester.gov.uk/media/113637/leicesters-biodiversity-action-plan-2011-21.pdf>

Some characteristic species

The river and canal are the major wildlife habitats in the city. Other important habitats include a number of small but mature broad leaved woodlands and spinneys, significant areas of grassland such as the neutral grassland in Goss Meadows and Kirby Frith Local Nature Reserves, the grassland around Aylestone, Birstall and the Anstey green wedge, and five ancient hedges, all but one in the northwest.

There are seven LNRs in the city, covering 2% of the land area, 33 sites of importance for wildlife conservation (covering 7%) and 98 biodiversity enhancement sites (~10%). Other large areas significant for maintaining urban biodiversity are parks (13 more than 10 ha in size and covering 5% of the land area) and allotments (44 sites covering 112 ha covering 1.5%).

There are only a few records, in some cases now very dated, of rare and BAP listed species in Leicester (great crested newts in the Western Golf Course, white-clawed crayfish in Anstey Brook and water voles in the

River Soar. Most are in need of reassessment. Otherwise the species found in Leicester are those which would be expected in association with the various urban habitats.

Local Wildlife Site criteria

There are no specific LWS criteria related to urban habitats, but LWS have been designated in urban areas using other LWS criteria.

Most important factors affecting the habitat

- Public generally unaware of Leicester's biodiversity, its loss and their own role both in this loss and in conservation
- Rapid development for housing and commerce
- Management of green spaces (excluding nature reserves) is largely unsympathetic to biodiversity conservation
- Anti-social behaviour associated with urban green space

Appendix 2: Species with Action Plans: Summaries

1. Barn Owl
2. Bats
3. Black Hairstreak butterfly
4. Black Poplar
5. Dingy and Grizzled Skipper butterflies
6. Dormouse
7. Nightingale
8. Otter
9. Purple Small-reed
10. Redstart
11. Sand Martin
12. Violet Helleborine
13. Water vole
14. White-clawed Crayfish
15. Wood Vetch
16. Swifts, Swallows and House Martins

1. Barn Owl

Action plan objectives

- Increase the number of breeding barn owls in Leicestershire and Rutland
- Encourage the provision of artificial nesting sites

Introduction

The Barn Owl *Tyto alba* is a good indicator of a healthy farmland environment. Throughout the United Kingdom in the 19th Century it was relatively common in lowland agricultural habitats. However since the 1940s it has been in serious decline. By 1997 there were fewer than 10 pairs in Leicestershire and Rutland. Since that time numbers have increased.

Key habitats

Barn Owls prefer to hunt and feed over unimproved rough grassland. Action to maintain and enhance this habitat is outlined in the neutral grassland, roadside verge and field margin action plans. Roosting and nesting sites are found in hollow trees and in old farm buildings. Many of these sites have been lost in recent years. The mature trees, lowland wood-pasture and parkland, and rocks and built structure habitat plans cover actions to preserve and increase the extent of these habitats and as a consequence should also benefit the Barn Owl.

Most important factors affecting species

Positive factors

- Climate change – mild winters
- Barn Owl nest-box schemes

Negative factors

- Loss of feeding habitat due to agricultural change
 - Loss of nest and roost sites
 - Road kill, particularly of young birds, whilst hunting along roadside verges
 - Increased urbanisation
-

2. Bats

Action plan objectives

- Maintain the known distribution of all bat species
- Monitor known roosts using National Bat Monitoring Programme protocols

Introduction

Although several bat species are still considered to be common, available evidence suggests an overall decline in populations (Harris et al. 1995). The Pipistrelles, for instance, are thought to have declined by an estimated 70% between 1978 and 1993 (National Bat Colony Survey). Twelve of the 16 UK species have been recorded in the Counties, with a thirteenth (Serotine) suspected. Following a number of academic studies, the habitat needs of most species are well understood.

Status

Common: Soprano Pipistrelle, Common Pipistrelle, Daubenton's, Brown Long-eared

Uncommon: Brandt's, Whiskered, Natterer's, Noctule.

Rare: Leisler's, Barbastelle, Serotine

Vagrant: Greater Horseshoe, Grey Long-eared.

Key habitats

British bats are insectivorous, occupying many habitat types. With their complex life cycle, they need warm summer breeding roosts and cold, secure hibernation sites, both usually found in built structures. However, at least six local species also rely on trees for roosts throughout the year. All species will benefit from the successful implementation of the Mature trees and Broad-leaved Woodland habitat action plans. Other habitat plans that will benefit bats included Hedgerows and Lowland Wood-pasture and Parkland.



Most important factors affecting species

- Intensification of agriculture and inappropriate riparian management leading to a decline in the amount of insect prey for all species
 - Widespread misunderstanding of the legislation protecting bats, leading to loss or damage of many roosts when consultation procedures have been ignored.
 - Changes in agricultural practices, and to a lesser extent urbanisation, have reduced areas of insect-rich habitat and the connective flyways, which act as feeding and commuting routes between these habitats.
 - Loss of winter roosting sites, which need to be cold, humid and undisturbed.
 - Loss, destruction and disturbance of other roosts, particularly maternity roosts, through the use of toxic timber treatment chemicals, intolerance by roosts owners, building practices, and tree felling.
 - Climate change.
-

3. Black Hairstreak Butterfly

Action plan objectives

- Maintain the only known colony at Luffenham Heath

Introduction

The Black Hairstreak butterfly *Styrmonidia pruni* butterfly is included on the Long List of Globally Threatened/Declining Species. It has a very restricted distribution in Britain, being confined to an area of central England from Oxfordshire north to Rutland. The borders of woods, and rides and clearings within woods, where the larval food plant Blackthorn *Prunus spinosa* is present, are the habitat of this shy and elusive butterfly. The adult keeps mainly to the top of oaks *Quercus spp.*, coming down to feed on honeydew and the nectar of flowers such as bramble *Rubus spp.* and Privet *Ligustrum vulgare*. In Leicestershire and Rutland the only certain location for Black Hairstreak is on and around Luffenham Heath Golf Course, where it is associated with the large areas of scrub woodland containing stands of Blackthorn.

Key Habitats

Black Hairstreak depends upon Blackthorn scrub managed by coppicing on a long rotation. Negative views of scrub, particularly on agricultural land, has resulted in a reduction in the amount of this habitat across much of the landscape. Where Blackthorn scrub still exists, it is often over mature due to lack of management, again resulting in loss of habitat for the Black Hairstreak.

Most important factors affecting species

- Lack of scrub management leading to dying out of Blackthorn and development of mature woodland.
 - Deliberate destruction of scrub habitat.
 - Habitat fragmentation preventing colonisation of new sites.
-

4. Black Poplar

Action plan objectives

- No further loss of existing Black Poplars
- Increase the population of Black Poplars by propagation of cuttings taken from local stock

Introduction

The Black Poplar includes many varieties, sub-species and cultivars of the species *Populus nigra* is found throughout most of central Europe, into Asia, where trees are widely planted. The native Black Poplar in Britain is the sub-species *betulifolia*, which is thought to occur naturally in the south and east of England, and parts of Wales. The tree was a distinctive feature of lowland river valleys but for a variety of reasons it is now scarce and the remaining populations are scattered. As a result the Black Poplar is one of the most endangered native trees in Britain. The species has separate male and female trees. The female is now very rare, having been selectively removed because of the large quantities of fluffy seeds produced in spring. Despite confusion with hybrids the native Black Poplar has probably always been rare in Leicestershire and Rutland, at least since botanical recording started in the early eighteenth century. Only a single specimen, at Barlestone, was known until recently, but there have been a further 13 trees reported from 10 sites, perhaps as a result of increased interest in this tree. All of the recent records are from west or northwest Leicestershire. The gender of very few of the trees has been determined, but there is at least one female, at Quorn.

Key habitats

The native Black Poplar is predominately a tree of open ground, not woodland, and will not tolerate side shade. A tree of river floodplains it is frequently associated with riverside meadows. This species should benefit from management covered by the Floodplain Wetland habitat action plan.

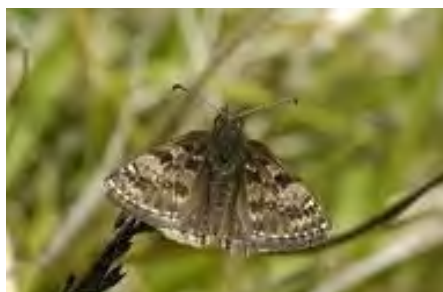
Most important factors affecting species

- The scattered nature of the population, making reproduction by natural means very difficult.
 - Hybridisation with non-native poplars resulting in seed of doubtful provenance.
 - The likelihood that the rarity of the native tree has resulted in little genetic variation within the population.
 - Loss of appropriate habitat for germination as a result of drainage, river engineering schemes and agricultural improvement.
 - Loss of, or damage to, remaining trees through agricultural operations including hedgerow removal, felling of hedgerow trees and close ploughing damaging the roots.
 - Indiscriminate planting of black poplars at inappropriate sites, using inappropriate stock and with little or no documentation.
-

5. Dingy Skipper and Grizzled Skipper

Action plan objectives

- Safeguard all known colonies and have their sites in favorable management.



Introduction

Both species have undergone losses of around 50% across the UK over the past 30 years although there are still some strong colonies in Rutland. Recent surveys have shown that losses in Leicestershire appear to be greater than the national average, especially for the Dingy Skipper *Erynnis tages*. The Grizzled Skipper *Pyrgus malvae* is approaching the northern edge of its range in Leicestershire.

These are our earliest butterflies to emerge in spring, and are on the wing from late April until mid-June. They live in small, self-contained colonies. However, for long term survival inter-connections between colonies are necessary, so that if one dies out it can be re-established from another nearby. Both butterflies can be difficult to spot because of their small size (wingspan 27-29 mm) and rapid flight close to ground level. In poor weather they remain stationary on dead flower heads.



Key habitats

Although the caterpillars of the two species need different foodplants, (principally Common Bird's-foot Trefoil *Lotus corniculatus* for the Dingy and Wild Strawberry *Fragaria vesca* or Creeping Cinquefoil *Potentilla reptans* for the Grizzled Skipper), colonies are often in similar habitats. Historically these have been sheltered chalk and limestone grasslands and woodland rides and clearings with relatively sparse and short vegetation. Nowadays in both counties colonies are found almost entirely in brownfield habitats, especially quarries and disused railway lines.

Most important factors affecting species

- Inappropriate (often misguided) development of brownfield sites for amenity use - cycleways, tree planting, grassed areas, soil enrichment.
 - Site destruction through development for industry or housing.
 - Habitat neglect, excessive scrub re-generation, dumping or other abuse.
-

6. Dormouse

Action plan objectives

- Maintain the existing Dormouse population in Pickworth Great Wood.

Introduction

The Dormouse *Muscardinus avellanarius* is a nocturnal animal, which lives among the branches of trees and shrubs, rarely coming to the ground, except to hibernate. It requires a mixed, species-rich habitat to supply a sequence of foods throughout its active seasons. In winter, Dormice hibernate on the ground in woven nests, which are sometimes in coppice stools, under brushwood or in tree roots. The Dormouse has a mainly southern distribution, being absent from Scotland, Northern Ireland and most of Wales and northern England. In the past 100 years it has become extinct in half the counties it formerly occupied. Even in good habitats, densities are less than 10 adults per hectare. Leicestershire and Rutland are sparsely wooded, and it is likely the species was always relatively rare. The most recent records are from Pickworth Great Wood, in eastern Rutland, where 40 boxes were put up in 1995.

Key habitats

Dormice are found in woodland. They have most often been associated with hazel coppice but probably are better thought of as a woodland edge species. They prefer areas with a high diversity of trees and shrubs, in which the shrub layer is dense and unshaded but which has a scattering of mature canopy trees. Shrubs that produce berries and nuts provide good sources of food. Many woods are surrounded by a hostile agricultural environment leaving isolated populations of Dormice vulnerable to extinction. Linking up woods, for instance through the planting of hedgerows, as promoted by the hedgerow action plan can help to reduce such isolation. Management of woods for Dormice is covered by the Broadleaved Woodland habitat action plan.

Most important factors affecting species

- Lack of traditional woodland management, notably Hazel *Corylus avellana* coppicing.
 - Fragmentation of woodland habitat, and removal of hedges linking them, leaving isolated, non-viable populations.
-

7. Nightingale

Action plan objectives

- Bring all known Nightingale breeding sites in Leicestershire and Rutland into favourable management

Introduction

The Nightingale *Luscinia megarhynchos* is included on the U.K. Long List of Globally Threatened/Declining Species. It is a summer migrant to Britain, with a south-east distribution. It tends to occur in loose colonies and prefers coppice woodland, but also occurs in hedgerows, scrub, young conifer plantations and mature deciduous woodland. The species' current and historical status in Leicestershire and Rutland has been described by Jeeves (*Leicestershire Red Data Book: Birds*, LRTNC, 1996). From being more widespread, the Nightingale had become restricted to eastern Rutland by the 1990s, with only 11 singing males in 1994 spread between Barnsdale and Hambleton Woods, Luffenham Heath and Coppice Leys (Barrowden). The absence from some woodland sites but not others is difficult to explain.

Key habitats

Nightingales prefer dense scrub for both feeding and nesting. Traditionally they were associated with hazel coppice although with the decline of coppicing Nightingales are now more likely to be found in blackthorn scrub and tall, thick hedgerows. After initiating scrub management for Nightingales vegetation takes about seven years to become sufficiently dense for it to be suitable for breeding birds. Relevant action plans, which are of relevance to the Nightingale, are those for Broadleaved Woodland and Hedgerows

Most important factors affecting species

- Losses associated with wintering grounds.
 - The decline in traditional coppice woodland management.
 - Planting of ancient woodlands with conifers.
 - Climatic change, which may account for the retreat eastwards.
 - The increase in deer populations, especially in eastern Rutland, leading to damage to woodlands and reluctance of owners to re-introduce coppice regimes.
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8. Otter

Action plan objectives

- To restore breeding Otters to all catchments (Avon, Soar, Tame, Welland) by natural recolonisation.

Introduction

Formerly widespread, the otter *Lutra lutra* has declined rapidly since the 1950s. Its range contracted until it was effectively lost from central and south-eastern England by the 1980s. Significant populations remained in Wales, south-west England, Scotland and Northern Ireland. The decline now appears to have halted and otters are re-colonising former habitats.

Up to the late 1950s the otter was still relatively numerous in Leicestershire, but as in other English counties, the population crashed after the 1950s. Throughout the 1980s and early 1990s there have been occasional records of otters from the Welland, Avon and Trent catchments. In 1994, The Otter Trust released seven captive-bred otters, on the Rivers Gwash and Welland in Rutland.

Key habitats

Otters have large ranges, which can be between 40-70km when quantities of prey are limited. They exploit a wide range of aquatic habitats from small ditches to large rivers, as well as ponds, lakes and reservoirs. The key factor determining the use of any body of water by otters is the quantity of fish present. Other factors are water quality and the presence of suitable places of refuge. Bankside trees, woody debris, brambles and scrub provide the latter. Action at the river catchment scale is necessary to ensure the return of otters to the area. However site based management as promoted by the Floodplain Wetland, Mesotrophic Lakes, Eutrophic Standing Water and Wet Woodland action plans can help to improve habitat quality for otters along individual watercourses.

Most important factors affecting species

- Use of organochlorines and, more recently, PCBs.
 - Insufficient prey associated with poor water quality and unsympathetic riparian management.
 - Impoverished bankside habitat features
 - Road deaths.
 - Disturbance, especially through increased recreation on rivers, canals and reservoirs.
 - Mink traps.
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9. Purple Small-Reed

Action plan objectives

- No loss of known populations of Purple Small-reed in Leicestershire and Rutland

Introduction

Purple Small-reed *Calamagrostis canescens* is a tall, attractive grass. It occurs in fens, marshes and open wet woods in scattered localities in England, especially the south-east, and Scotland. In Leicestershire and Rutland Purple Small-reed seems to prefer open woods on wet soils. Confusion with the very similar *Calamagrostis epigeijos* means that some old records of *C. canescens* are questionable. Nevertheless there are only seven post 1970 site records. Owston, Stretton and Cloud Woods are the only sites where colonies are still known for certain to occur. At these sites the plant is restricted to the margins of wet woodland rides.

Key habitats

In Leicestershire and Rutland Purple Small-reed is restricted to woodland habitat. This is covered by the Broadleaved and Wet woodland action plans. Under these plans actions covering conifer removal, ride and coppice management will all benefit this plant.

Most important factors affecting species

- Cessation of traditional woodland management (coppicing) leading to loss of open areas through development of a closed canopy.
 - Planting of woodlands with conifers.
 - Neglect of woodland ride systems.
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10. Redstart

Action plan objectives

- Return of breeding Redstarts to Leicestershire and Rutland

Introduction

The Redstart *Phoenicurus phoenicurus* is a summer visitor to most of Britain, but is absent from Ireland. In Eastern England it is localised in occurrence. It feeds mainly on insects and nests in holes in trees and other places, in open woodland or parkland. In Leicestershire and Rutland it was once fairly common and widespread, but in recent years there have been no records of breeding in the Counties. Former sites, where two or more pairs bred regularly, are Burley Wood, the upper Chater valley, and possibly the Eye Brook valley.



Key habitats

The Redstart requires open woodland with mature trees for both nesting and feeding. Many local woodlands were clear felled within the past 60 years and now contain few mature trees with suitable nest holes. Lack of management such as coppicing has resulted in the vegetation becoming increasingly dense and shaded with the resultant loss of feeding habitat. In the wider countryside hedgerow and streamside trees have been removed, often as a result of agricultural intensification. In the long-term favourable management of woodland, hedgerows and mature trees should benefit Redstart. Management of Redstart habitats is covered by the Mature trees, Hedgerows, Broadleaved Woodland and Lowland wood-pasture and parkland action plans.

Most important factors affecting species

- Felling and re-planting of woodland habitat.
 - Woodland neglect and lack of management leading to loss of open areas and development of thick understorey.
 - Loss of hedgerow and stream-side trees.
 - Fragmentation of suitable breeding sites.
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11. Sand Martin

Action plan objectives

- Increase the number of Sand Martin colonies

Introduction

The Sand Martin *Riparia riparia* is a summer visitor to Britain and Ireland. It is still relatively common throughout Eastern England. It feeds on insects and nests in excavated tunnels, in riverbanks and man-made cliffs. In spring and autumn, Sand Martins gather with other hirundines in large flocks over large bodies of water and roost in suitable vegetation such as reedbeds. The species is included in the long list of Globally Threatened/Declining species. In Europe the Sand Martin has been identified as a species of European Concern (Category 3) on account of significant declines in populations. Drought conditions in the wintering grounds of the Sahel in the 1970's and 1980's saw large reductions in colony sizes within the Counties. Seven colonies have been recorded in recent years including at artificial Sand Martin walls at Watermead Country Park and Rutland Water nature reserve.

Key habitats

Natural nest sites for Sand Martins are holes excavated in banks and cliffs, particularly along riverbanks. But in Leicestershire and Rutland they are more often associated with man-made excavations such as gravel and sand pits where the faces and spoil heaps provide suitable nesting sites. Artificial Sand Martin banks have also been a success locally, even on sites such as Rutland Water, with no previous record of breeding. Reedbeds provide roosting habitat for Sand Martins and are covered in the Reedbed habitat action plan. Sand Martins feed on invertebrates associated with wetlands and areas of open water, some of which are covered by the Floodplain Wetland, Mesotrophic Lakes and Eutrophic Standing Waterplans.

Most important factors affecting species

- Habitat changes in wintering areas
 - Loss of suitable nesting banks
 - Flood defence and straightening of suitable rivers in the past resulting in the loss of suitable nesting area
 - Disturbance to colonies
 - Loss of roost sites due to drainage and scrub encroachment
 - Loss of feeding sites such as wet meadows, river margins, field ponds and other wetland habitats.
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12. Violet Helleborine

Action plan objectives

- No loss of Violet Helleborine colonies from any known site

Introduction

The Violet Helleborine *Epipactis purpurata* is an uncommon woodland orchid with a southeastern distribution in Britain and Ireland. It is found especially in beech woods on lime-rich soils, in heavy shade. In Leicestershire and Rutland this plant is at the northern limit of its distribution in the UK and is restricted to ancient woodlands on heavy basic soils. Since 1970 it has only been recorded from eight sites, of which only Great Merrible and Sheet Hedges Woods have populations of more than one or two individuals. The total number of individual plants in the counties is likely to be less than 100.

Key habitats

Ancient woodland with mature stands and heavy shade, and often under Oak *Quercus robur* and Beech *Fagus sylvatica* (where planted on Ancient woodland sites). Although covered by the broadleaved woodland plan many of the aims of that plan are likely to be detrimental to the survival of Violet Helleborine. It is therefore important that management of woodland sites where Violet Helleborine is found, takes into account this species requirement for shade. Activities such as coppicing and felling should be directed to areas well away from colonies of this plant.

Most important factors affecting the species

- Felling and planting of ancient woodlands.
- Restoration of coppicing to ancient woodlands without consideration of the needs of the Violet Helleborine (minimum intervention and long rotation coppicing).

13. Water Vole

Action plan objectives

- Maintain the current distribution in order to arrest the decline of the species in Leicestershire and Rutland.

Introduction

The Water Vole *Arvicola terrestris* is found throughout Britain but is confined mainly to lowland areas near water. A national survey in 1989-90, by the Vincent Wildlife Trust, failed to find signs of voles in 67% of sites where they were previously recorded. Once common and widespread in Leicestershire and Rutland until at least the 1970s, this species has suffered a significant decline in number and distribution. In 2002/2003 a survey of Water Voles found only six significant colonies in the two counties. The isolated nature of these colonies means that they are susceptible to extinction as a result of predation or habitat destruction, with little possibility of recolonisation from other populations.

Key habitats

Water Voles favour slow-moving water and canals. Sites should not be subject to large fluctuations in water level, or dry out in summer. Tall marginal and emergent vegetation provide feeding sites. Low scrub vegetation can provide cover but sites shaded by taller shrubs and trees are avoided. Water Voles also require steep, vegetated earth or clay banks in which to make their burrows.



Most important factors affecting species

- Riverside work and flood alleviation schemes.
 - Intensive land use, including both arable farming and pasture with high stocking rates, adjacent to water courses
 - Predation by American Mink.
 - Pollution.
 - Fragmentation of the population.
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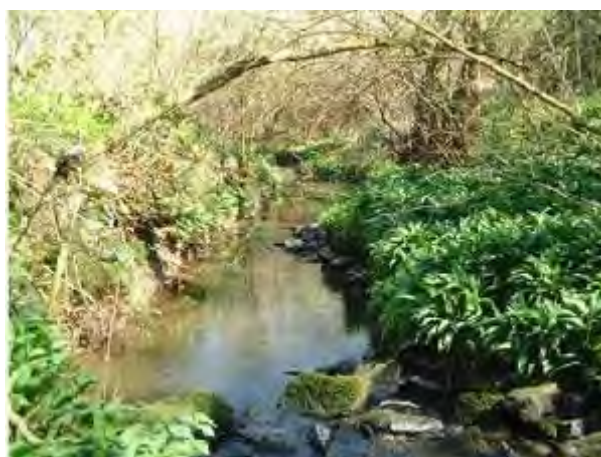
14. White-Clawed Crayfish

Action plan objectives

- Maintain the present distribution of White-clawed Crayfish

Introduction

White-clawed Crayfish *Austropotamobius pallipes* is the only species of freshwater crayfish which is native to the UK. It has a wide distribution in the British Isles across lowland England and Wales and in central Ireland, mainly in areas with relatively hard, alkaline water. It occupies a range of habitats, including streams, rivers, lakes, reservoirs and water-filled quarries, with a preference for streams and rivers without too much sediment and with adequate shelter. In Leicestershire, in the Trent catchment, crayfish are found in the headwaters of the Soar and in several of its tributaries, including the Wreake (River Eye SSSI), Twyford Brook, Rothley Brook and particularly the Charnwood streams. They are also present in the (Coalville) Sence and the Sence Brook. There are still-water populations at Nanpantan and Blackbrook Reservoirs, and in flooded quarries at Stoney Cove and Markfield. In the Environment Agency Anglian Region, there are crayfish populations in the Welland, Chater and Gwash.



Key habitats

The White-clawed Crayfish will benefit from implementation of the Fast-flowing Streams and Eutrophic Standing Water Habitat Action Plans which cover streams, rivers, lakes and reservoirs favoured by this species.

Most important factors affecting species

- Crayfish plague, a disease caused by the fungus *Aphanomyces astaci* which is carried by some North American crayfish including the Signal Crayfish *Pacifastacus leniusculus*.
 - Direct competition for food and habitat from non-native crayfish; three non-native crayfish species are now breeding in the wild, and two of these occur in Leicestershire and Rutland.
 - Habitat modification and management of waterbodies.
 - Pollution, particularly pesticides and sewage.
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15. Wood Vetch

Action plan objectives

- No further loss of Wood Vetch from known sites

Introduction

The Wood Vetch *Vicia sylvatica* is a widespread but localised species in Britain and Ireland, occurring in open woods and wood borders, scree, scrub, maritime cliffs and shingle. It is rare and declining in the East Midlands. For example, a severe decline has been noted in Lincolnshire due to the planting of conifers in deciduous woodlands, and the plant is now confined to just three sites in that county. Recorded from 11 sites in Leicestershire and Rutland, this plant has been seen recently at Hallaton Wood, in newly felled and planted woodland, and in scrub at Clipsham Old Quarry. It could still occur at Loddington Reddish, Tugby Bushes and Tugby Wood, from where it was last recorded in the 1970s.

Key habitats

Wood Vetch appears to respond to light in woodland and scrub, and shows a strong association with ancient woodland sites (the Clipsham population may originally have colonised from the adjacent Pickworth Great Wood). It will benefit from a number of the actions proposed in the Broadleaved woodland habitat plan.

Most important factors affecting species

- Cessation of traditional coppice woodland management, leading to heavy shading of the herb layer.
 - Reduced ride management, also leading to shading.
 - Planting of trees producing heavy shade, as has happened at Hallaton Wood.
 - Conflict of management objectives resulting in excessive scrub removal at Clipsham Quarry.
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16. Swifts, Swallows and House Martins

Action plan objectives

- Develop guidance on swifts, swallows and house martins for inclusion in Supplementary Planning Guidance, and improve awareness of conservation issues amongst planners, householders and developers.
- Encourage recording and collecting of data, and maintain database of sites.
- Encourage provision of nesting boxes and opportunities in new/renovated building projects

Introduction

Swift (*Apus apus*) are supremely adapted to flying and flying at speed, feeding, sleeping and even mating while in the air. They are not related to swallows or house martins but many of their habits and reliance on man-made structures are similar. They depend almost exclusively on man-made sites such as houses, typically high up under the eaves, in ventilators and other available cavities. The birds arrive in early May and depart for Africa in early August, usually nesting in colonies. Swifts pair for life and are likely to return to the same nest sites year after year. Nestlings will also return to the vicinity where they were reared. Thus, where there are swifts nesting, it is likely to be a local population with links to that locality going back many years. Swifts will use old and new buildings.

Swallows (*Hirundo rustica*) sometimes use natural nest sites, such as caves and cliffs, but more often use man-made structures allowing them to become more widespread. Swallows return to nesting sites in April and May, normally raise two or maybe even three broods depending on the weather. Swallows leave in September and October, sometimes travelling in flocks, overwintering in South Africa, feeding on the way. This makes them vulnerable to food shortages on their migration routes. Nests are normally built inside a building, on a beam or ledge and they are often not much higher than head height. They require cover above the nest, keeping it dry and relatively secure, and prefer farm buildings, particularly close to stock as this ensures a plentiful supply of insects close to the nest, but have been recorded using a wide range of different sites including mine shafts, under bridges and even within construction sites. Single nests are common but swallows often breed in small colonies of four or five pairs.

House martins (*Delichon urbicum*) are summer visitors to the British Isles, spending the winter in tropical Africa. Traditionally, house martins used overhanging cliffs and rock ledges on which to build nests, but house eaves mimic this habitat adequately and are more widespread. House martins tend to breed in colonies and whilst they are not so loyal to particular nest sites as are swallows, nevertheless many do return year after year. Their nesting period is slightly longer than either swifts or swallows and the third brood can still be in the nest in mid-September. This is important when considering when to undertake work which may cause disturbance to the birds.

All three species are still relatively common in Leicester, Leicestershire and Rutland, but are in decline.

Key habitats

Buildings, including industrial buildings, warehouses, former mill buildings and office buildings; farm buildings and houses; also bridges and other structures.

Most important factors affecting species

There has been a moderate (25-49%) decline in UK breeding population of all 3 species over last 25 years.

Modern building methods, changes in building regulations and better maintenance of properties all contribute to excluding these species from their usual nesting places in roofs.

Little is known at present about all the factors contributing to the decline in UK breeding swifts, swallows and house martins. It is possible that fewer birds are surviving to return to the UK each year.
