
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

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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

Area: 2553 sq.km (986 sq.miles)
Distance between boundaries: 72 km (44 miles) N-S; 93 km (57 miles) E-W
Altitude: mostly between 61 m and 183 m (200-600 ft)
Highest point: Bardon Hill 278 m (912 ft)
Lowest point: confluence of Rivers Soar and Trent at 27 m (90 ft)
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/)
Land use: <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
Sites of Special Scientific Interest: 95 (81 biological) covering 6438 ha (c. 2.5% of counties, national average is c.6%)
Nature Conservation Review sites: Cribb's Meadow; Leighfield Forest; Muston Meadows; River Eye; Rutland Water; Swithland Wood
Geological Conservation Review sites: Charnwood Lodge + others
Special Areas of Conservation: 1 (River Mease)
Special Protection Areas: 1 (Rutland Water)
Ramsar Sites: 1 (Rutland Water)
Environmentally Sensitive Areas: None
Areas of Outstanding Natural Beauty: None
National Parks: None.
Community Forests etc: 1 (The National Forest).
National Nature Reserves: 3 [Charnwood Lodge, Cribb's Meadow (LRWT); Muston Meadows (NE)].
Local Nature Reserves: 22
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.
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.
Main reasons for decline in biodiversity: <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
<i>Michael Jeeves 2010, updated by S Timms, Dec 2016 (highlighted)</i>

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 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.

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 hay meadows.

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 habitat 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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The National Forest: http://www.nationalforest.org/about_us/about_us.php

Timms, S. 2011. *Inventory of Mature Trees in Leicestershire and Rutland*. LRERC

Appendix 1: Priority Habitat Summaries and registers

The 19 Habitat Action Plans set out in earlier versions of the Leicester, Leicestershire and Rutland Biodiversity Action Plan have been retained in 'Space for Wildlife' as priorities for conservation and restoration. This document contains a summary for each:

- **Action Plan objectives**
- **Introduction** – a brief description and rationale for being a conservation priority
- **Current extent** – an estimate, if known, and summary of lists and inventories of the habitat
- **Species associated with the habitat**
- **Local Wildlife Site criteria** – the relationship to these, and a summary of the thresholds/indicators needed to meet the set of criteria
- **Most important factors affecting the habitat** – mainly threats
- **Opportunities** – brief notes on enhancement, conservation and creation.

The main changes in this revised plan are the additional sections on Current extent, Relationship to LWS criteria, and Opportunities.

Some habitats also have a Register of known locations for the habitat, and a distribution map.

Sources of information

Whenever possible, the habitat action plans are accompanied by draft site lists or habitat inventories, estimates of area/number of sites, and distribution maps.

It has proved to be difficult to produce definitive inventories, and all those produced should be regarded as work in progress. Issues are:

- The age of the data used to compile the inventory – some are based on data that is now over 20 years old;
- The shortage of recent habitat survey data across the LBAP area, meaning that none of the Inventories are comprehensive;
- Lack of ground-truthing – most inventories are desk-based;
- Lack of access to some privately-owned sites (e.g. parkland sites);
- The difficulty of relating some existing datasets to local BAP standards and LWS criteria.

Local Wildlife Sites register

Since the first local BAP was published, in 1998, criteria for designating Local Wildlife Sites (LWS) in Leicester, Leicestershire and Rutland have become established. Originally they were known as 'SINCs', or 'Sites of Importance for Nature Conservation', and the terms are interchangeable.

The *Guidelines for the selection of Local Wildlife Sites in Leicester, Leicestershire and Rutland, revised 2011 (4th edition)* has been referred to throughout. Meeting LWS criteria for designation is synonymous with being a local BAP habitat. The spatial database of LWS and candidate LWS is now the main source of information on habitats in Leicester, Leicestershire and Rutland, and it has been used as the basis for many of the appended draft habitat inventories or lists and distribution maps.

Previous local BAP Inventories

Since the publication of the first Local BAP in 1998, several habitat inventories have been produced by members of the local BAP Steering Group.

The following have been accepted by the Group:

- **Sphagnum ponds**, Derek Lott & Dennis Ballard, 2000
- **Heath grassland**, Darwyn Sumner, 2005
- **Floodplain wetlands**, Derek Lott, 2005
- **Mature trees**, Sue Timms, 2011
- **Neutral grassland**, Karen Headley & Sue Timms, 2013

In addition, several other draft inventories were produced by LCC, but were never finalised. These, and the consultation comments of the local BAP Group at the time, have been referred to.

National datasets

National datasets on woodlands and parklands have been used:

- Natural England: Ancient Woodlands (England) <http://www.geostore.com/environment-agency/WebStore?xml=environment-agency/xml/ogcDataDownload.xml>
- Forestry Commission, IFOS National Forest Inventory England 2014, <http://www.forestry.gov.uk/datadownload>
- Harvey *et al.* English Nature Research Report 595: A provisional Inventory of parkland and wood-pasture in the East Midlands, July 2004 <http://publications.naturalengland.org.uk/publication/63018?category=554048>
- Priority Habitat Inventory, Natural England 2014

SSSI citations and related documentation on Natural England's web-pages

These have been used to identify habitats present on SSSIs.

Aerial photos

These have been occasionally useful in determining extent of a resource – e.g. reedbeds. The photographs used were flown in late in summer 2011.

Other sources

LRERC's document archive has been searched for relevant reports and surveys, and when used, these have been referenced in the text.

List of Habitats

		Inventory	Map
01	Broad-leaved woodland	(ASNW/PAWS only)	Y
02	Wet woodland	Draft	Y
03	Lowland wood-pasture and parkland	List of historic parklands	Y
04	Hedgerows	N	Spp.-rich only
05	Mature trees	Y (see separate doc)	Y
06	Eutrophic standing water	Draft	Y
07	Mesotrophic lakes	n/a (3 sites only)	N
08	Floodplain wetland	Y (see separate doc)	Y
09	Reedbed	Y	Y
10	Fast-flowing streams	N	N
11	<i>Sphagnum</i> ponds	Y	N
12	Springs and flushes	Partial	N
13	Neutral grassland	Y (see separate doc)	Y
14	Heath grasslands	Y	Y
15	Calcareous grassland	Y	Y
16	Roadside verges	N	Y
17	Field margins	N	N
18	Rocks and built structures	N	N
19	Urban habitats	N	N
20	<i>Rivers (in preparation)</i>	<i>n/a</i>	<i>n/a</i>