

APPENDIX 10

Kirk Langley environment

1. Physical characteristics.

1.1 Kirk Langley is situated in an area of settled mixed arable farmland, characterised by undulating fields bounded by hedgerows and isolated trees. It is an historic farmland area. It has a village centre, based around the church, school and village hall. The one village pub is situated in the settlement area of Langley Common. This settlement area comprises Adams Road, Poyser Lane/Moor Lane and Poles Road. It is situated about three quarters of a mile from the Church and sits in an elevated position above the village settlement. Beyond that, Kirk Langley Parish has a series of isolated farmhouses and small hamlets. Within the Parish lies Meynell Langley Hall situated between Kirk Langley Village and Kedleston Hall. Within the parish lies the key approach to Kedleston Hall, commencing at Flagshaw Lane. Apart from the pub, there are a number of other small businesses within the parish.

1.2 In October 2016 Amber Valley Borough Council (AVBC) undertook a landscape sensitivity survey, which underpinned the local plan. Kirk Langley is within The Needwood and South Derbyshire Claylands area and is characterised as settled farmland. This is described as follows¹:

“An undulating to gently rolling, dairy farming landscape with hedgerow trees, dense watercourse trees and occasional small woodlands. A well- settled landscape of red brick farmsteads and cottages along winding country lanes”

The survey referenced the study of Areas of Multiple Environmental sensitivity (AMES) to identify those areas of landscape within the county considered to be most sensitive in relation to landscape character, biodiversity and the historic environment. The output of the study was the identification of Areas of Multiple Environmental Sensitivity, where two or more of the input indicators (visual unity, ecology or historic) were determined as significant. This resulted in the identification of areas of primary sensitivity (significant for all three of the indicators), and secondary sensitivity (significant for two of the indicators). Remaining land was identified as not being strategically sensitive.

The study classes the majority of the south west corner of the borough as of primary sensitivity

*“comprising the landscape around Kedleston Hall and RPaG, and north of Kirk Langley. A narrow strip of land to the south of Kirk Langley is identified as not being strategical sensitive, and the remaining land within this NCA (within the Borough) is identified as being of secondary sensitivity”.*²

¹ Page 4, 1.1.5

² 3.3.3 AMES study

Within that assessment there are specific levels of sensitivity: low, medium and high:

“determined by the presence of landscape receptors which affect susceptibility to change and landscape value, and the relationship between these two factors”

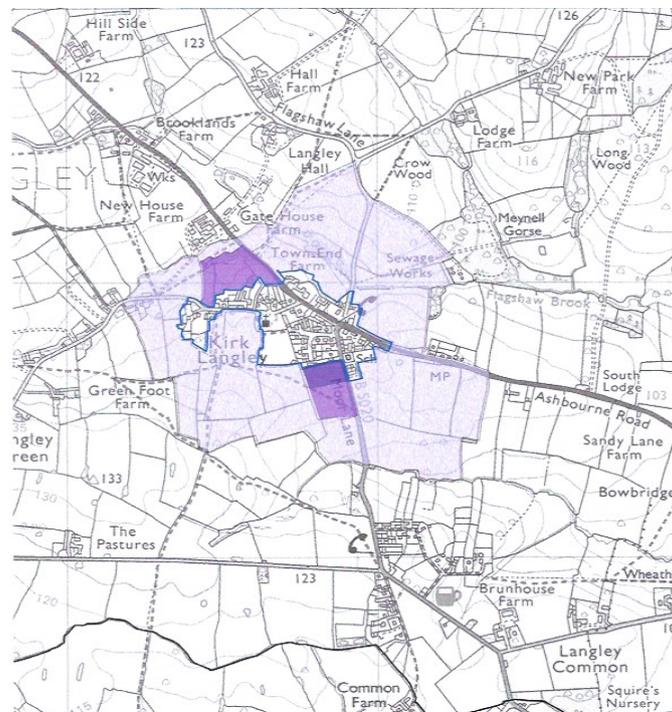
The sensitivity levels are further explained as follows:

High sensitivity: Land with a high susceptibility to change and/or which is of high value, e.g. land adjacent to or visually prominent from the World Heritage Site, land outside of the settlement pattern, land which has high visual prominence, land which contributes to heritage or ecological assets.

Medium sensitivity: Land with a medium susceptibility to change and/or which is of medium value, e.g. land which has medium visual prominence, land which partially contributes to heritage or ecological assets.

Low sensitivity: Land with a low susceptibility to change and/or which is of low value, e.g. land within the settlement pattern, land with low visual prominence, land which has no or very limited contribution to heritage or ecological assets.

This assessment of sensitivity for Kirk Langley village (only) is described on the plan below referred to in the study:



KEY:

no colour: no sensitivity. Pale Purple: High sensitivity. Medium purple: Medium sensitivity. Deep purple: Low Sensitivity

2. ECOLOGY

overview

2.1 Fields and boundaries

The field boundaries are largely hedgerow, often supplemented by stock fences. Isolated trees can be seen within fields and within the hedge boundaries. The grassland in Kirk Langley is generally characterised as “improved grassland” (see below), with few flowers and few grass species, sown for forage and silage. Such flowers and plants which are present, such as buttercups, docks and thistles, have little value for wildlife. Thus, the grassland is generally “species poor”. There are no meadows within the parish. Meadows are characterised as “small, flower-rich, agricultural grassland which is not intensively managed”. These meadow grasslands are relatively undisturbed areas which have had time to develop complex ecosystems. See **Annex 1** for further details of meadow grasslands. However, some wildflowers and grasses can be seen along some field edges and hedgerows, particularly along field edges which contain crops, when they are not ploughed up to the boundary.

2.2 Improved grassland

This is one of the more intensively managed types of vegetation in Britain. They are dominated by grass species, with few flowers, and are often sown for agricultural or recreational use. The abundance of *Lolium perenne*, *Phleum pratense* and *Trifolium repens* is the result of application of fertiliser to encourage the growth of such species, or of direct reseeding of these swards. These grasslands are managed as grazing pastures or hay meadows for silage or both, where stock graze on the aftermath after hay is cut in summer.

2.3 Woodland

Small pockets of deciduous woodland can be seen in the Parish, particularly in land to the North West of the A52, adjacent to Lodge Lane and land forming part of the Meynell Estate; such as Sandpit Wood and Crow Wood. Isolated mature native trees can be seen within some fields and hedge boundaries.

2.4 Lakes, ponds and watercourses

There are a number of ponds within the parish and one small lake on private land in Nether Burrows. A couple of slow-flowing streams meander across the landscape with tributaries draining the surrounding farmland into these watercourses.

3. UK Biodiversity Action Plan (BAP) and Priority Habitats

The BAP must be taken account of in any planning decisions. For additional detail see **Annex 2**. The priority habitats mentioned in the BAP are referred to below. The focus of the BAP is on priority species listed in Section 41/42 of the Natural Environment and Rural Communities Act (2006) together with species listed as Biodiversity 2020 Farmland.

3.1 These are the primary features set out in the BAP which appear to apply to Kirk Langley:

- A) *“Wood-pasture and Parkland*: Scattered across the area with fine examples at Kedleston, Meynell Langley.....”
- B) *Veteran trees*: Mainly found in the parks, but also in fields, hedges and woods across the area.
- C) *Hedgerows*: Widespread throughout the area.
- D) *Ponds*: Main concentration between Osmaston and Kedleston”.

3.2 (A) Woodpasture and Parkland

The following is taken from the official habitat definition for wood pasture and parkland, agreed by the Habitat Action Plan technical advisory group and published by the Joint Nature Conservation Committee at the end of 2011:

“Wood pasture is classified as a mosaic habitat valued for individual park-like trees particularly veteran and ancient, and the fauna, flora and fungi it supports, including a number of species that only occur in wood pasture and parkland. Grazing animals are fundamental to the habitats existence and many sites are also important historic landscapes”.

This appears to include part of the Meynell estate, falling within the parish boundary.

3.3 (B) Veteran trees

These can be seen within the line of hedgerows and some are isolated within fields and include oaks, which support the greatest number of insect species. Native deciduous woodland supports greatest number of insects and enhance birdlife.

3.4 (C) Hedgerows and field boundaries

Many farmland species have declined over recent years due to agricultural intensification, so arable field margins provide vital havens for these creatures. In the UK Biodiversity Action Plan (BAP), cereal field margins, in particular, are a priority habitat. This is because wildflowers are important sources of nectar and pollen for bumblebees, wasps and butterflies. Grasshoppers and beetles take cover in the grasses, along with many beneficial predators, such as spiders and ladybirds, which feed on crop pests like aphids. Field margins can provide refuges for brown hares and small mammals, such as field voles, which attract barn owls and kestrels. They also offer nesting and feeding sites for birds such as corn bunting, skylark, tree sparrow and grey partridge, all of which are identified as priority species in the UK BAP. Arable field margins also buffer ditches, rivers and streams from agricultural activity and pollution and provide valuable wildlife corridors, allowing wildlife to move freely between habitats. Some field margins in Kirk Langley appear to be purposefully left unploughed. This is an area of land management which is controlled by DEFRA and the conditions attached to farm payments and in other land management schemes. This is described further in **Annex 4**.

In addition to field margins, the most important resource for wildlife in Kirk Langley are its hedgerows. Hedgerow is valued locally by farmers as a stock-proof barrier and windbreak. They are protected in law from removal, but the same legal protections do not cover their

maintenance. Issues relating to maintenance are described in **Annex 5**. Hedges are best for wildlife when they include many varieties of types and heights of shrub, trees and rambling plants.

3.5 (D) Ponds and watercourses

Kirk Langley has numerous ponds scattered through the Parish; including one opposite New House Farm, between New House farm and Tudor Farm, several off Church Lane and near the Green. There is one small lake on private land adjacent to the Burma Road at Nether Burrows. There is one stream (Flagshaw Brook) flowing west-east with tributaries flowing to the north of Ashbourne Road, until it reaches and merges with Mackworth Brook. A further stream to the West is Radbourne Brook, running from Petty Close Lane to the South to and beyond Long Lane. There are a number of other watercourses which form part of the land drainage system. There has been no official recording of priority protected species in local ponds and watercourses.

4. BIODIVERSITY WITHIN KIRK LANGLEY

4.1 [Biodiversity 2020: A strategy for England's wildlife and ecosystem services](#) is the Government's strategy for people and wildlife in England. It was published in 2011 and replaces the previous England biodiversity strategy, the UK-BAP, when biodiversity strategy was devolved down to the four governments.

Biodiversity 2020 sets out to "halt overall biodiversity loss, support healthy well functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people."

Hedgerows are the key resource for wildlife in Kirk Langley. Their importance is described below in relation to plants, birds, mammals, insects and amphibians

The greater the diversity of plant species in a habitat, the greater the diversity of animal life, including birds (Green et al., 1994; Macdonald & Johnson, 1995; Osborne, 1984) and mammals such as dormice (Bright & Macpherson, 2002; Ehlers, 2012). Correspondingly in hedges, the higher the diversity of trees and shrubs present, the greater the number of specialist herbivores, along with their parasites and predators (Maudsley, 2000). High shrub and tree diversity is also linked to increased structural diversity which is also critical for biodiversity (e.g. Goiti et al., 2003; Maudsley, 2000). Research shows that high plant diversity facilitates greater resilience in invertebrate communities to change (Woodcock et al., 2010).

4.2 Plants

Hedgerows in optimum condition should be strips of bustling wildlife. They should not only contain a variety of plant species, including trees, shrubs, flowers and grasses, thus adding to the intrinsic wildlife value of the hedgerow, but should also provide food and shelter for a wide range of other animal species. The local hedgerow trees and shrubs typically include hawthorn, blackthorn, hazel, oak, ash and field maple. Climbing species to be seen are dog rose, holly and ivy, bryony, bramble and honeysuckle. The native hedgerow trees and shrubs support a wider range of wildlife than non-native plant species. Plants found in hedge bottoms include bluebells, dogs mercury and yellow archangel but these are more frequently to be found in areas which are adjacent to small areas of woodland or previous woodland

areas. Hedgerows also acquire the character of any woodland edge in the vicinity. Other common species include cow parsley, nettle and thistle. In particular areas on road/lane edges and adjacent to hedgerows, campion and vetch can also be found. In spring an abundance of daffodils is evident. These are not natural woodland daffodils, but are the result of planting initiatives in the village.

4.3 Birds

Most mature hedgerow is extremely good for songbirds such as robin, dunnock, wren, long-tailed tit and yellowhammer; using dense hedges which are ideal for nesting. All of these have been observed in the locality. Autumn fruits and berries in hedgerows, rosehips and hawthorn, are taken by thrush and blackbirds and ripenings correspond with the arrival of fieldfare from Europe. Small flocks of fieldfare are evident locally. Birds; such as dunnocks, blue tits, wrens, blackbirds, robins and chaffinches use the hedgerows for feeding, roosting or nesting. Yellowhammers are rarer as a species but can be seen in significant numbers along Nether Burrows Lane and Petty Close Lane areas. Hedgerow verges are also used by partridge, which can be seen occasionally around the village. Owls, kestrels and sparrowhawks can be seen hunting for food around hedgerows, suggesting a healthy mammal population. Buzzards can be observed soaring over the fields and being mobbed by crows if they venture too close to their nesting sites.

4.4 Mammals

Small mammals such as wood mouse and harvest mouse take advantage of hedgerow fruits; whereas shrews focus on invertebrates living in or near hedge bottoms. Rabbits will use the hedgerow as shelter. Brown hares can be seen occasionally, using them for cover and shelter before being seen to bolt across fields when disturbed. Hedgehogs, shrews, bank voles and wood mice use hedgerows to feed, nest and hibernate. In older hedgerows, rabbit burrows, fox earths and badger setts can be seen. Bats use hedgerows as flight paths and for feeding and use old hedgerow trees for roosting.

4.5 Insects

Insects are the most conspicuous invertebrates found in hedgerows with flowering and fruiting periods for bramble seeing them at their most active. Very few butterfly species actively breed in hedgerows but hedgerow flowers are visited by gatekeeper, ringlet, comma and red admiral. Moth caterpillars feed on a wide range of woodland shrubs and therefore hedgerows are an important part of the moth life cycle.

4.6 Amphibians

Frogs and toads also use hedgerows near to ditches.

4.7 Connectivity

The key management tool is to retain all native hedges and plant new ones to fill in large gaps in the network. Research increasingly reveals the importance of linear landscape features, of which hedges are the most frequent, for the abundance of, movement of and survival of animal species within farmland

A report and a series of leaflets have recently been published following completion of a research project funded by Defra. The project, "Understanding the combined biodiversity benefits of the component features of hedges", aimed to increase our understanding of the role hedges play in supporting biodiversity. The report presents information on the importance of managing all hedge components optimally for biodiversity and the inter-relationship of the five structural components of hedges (trees, shrubs, hedge base, field margin and ditches), maintaining and increasing connectivity between hedges, and between hedges and other semi-natural features such as woodlands and ponds, should be given a higher profile.

DEFRA concludes by stating that more resources need to be directed towards new hedge planting. Increasing connectivity is likely to assist with climate change adaptation through facilitating species dispersal to favourable climate space. It will also improve resource protection by reducing surface run-off and erosion and increasing infiltration. Further encouragement should be given to establish new hedgerow trees, unless there are specific landscape or species reasons not to do so. An increase in tree numbers will assist with climate change mitigation through increased carbon storage. Increased hedge connectivity may be expected to assist with resource protection, through reducing surface run-off and soil erosion and increasing infiltration

In summary Broad, tall hedges with a diverse range of species and heights are the best for supporting most invertebrates. Maintaining herb-rich hedge bottoms and wide margins will also increase the habitat niches available. Continuing hedgerow loss and neglect and an overtidy approach to hedgerow management could be harmful to populations. Maintaining connections and avoiding gaps will help to maintain wildlife corridors.

4.8 Maintenance of diversity at hedge bottoms

Thick hedges with tussocks and accumulations of leaf litter are likely to be preferred by invertebrates such as ground beetles. Hedges should be maintained so that they are still permeable to invertebrates, allowing them to exploit habitats on both sides of the hedge with ease. Many invertebrates are associated with the herbaceous plants which characteristically occur at the bases of hedges. Plants such as cow parsley, hogweed, wild parsnip and hedge parsley attract large numbers of insects. Nettles are the food plants of butterflies such as the Small tortoiseshell and Peacock and the Orange-tip butterfly breeds on hedge garlic. Other useful hedge-bottom plants are black horehound, which is the host plant for many beetles and bugs, and toadflax, host to the scarce Toadflax leaf-beetle (*Chrysolina sanguinolenta*).

Wide margins should therefore be retained in order to allow such plants to flourish. Under cross-compliance regulations introduced in 2005, all hedges must have a buffer margin extending at least 2 metres from the centre of the hedge, but in thicker hedges this is likely to be insufficient protection and wider margins should be adopted. However, any bank, wall, ditch or tree within 3 m of the centre of the hedgerow is considered to be part of the hedgerow habitat, as is the herbaceous vegetation within 3 m of the centre of the woody hedgerow.

4.9 Butterfly and other insect populations

Features that affected the butterfly density of hedgerows include shelter from wind, insolation, nectar plant diversity, plant species richness, margin area and uncropped land. For optimal butterfly activity, hedges should create a network where shade and shelter are available as long as possible as the weather conditions change. The presence of farm tracks adjacent to hedgerows negatively affects butterfly density.

Management: Create dense hedges, especially at the base, by appropriate trimming and stock control. Wider hedges are better for wildlife than narrow ones, but they must not shade out margins or ditches. Dense hedges are better than thin ones for protection from predators and unfavourable weather (Dover et al., 1997; Hinsley & Bellamy, 2000; Maudsley, 2000) and increase the chances of successful breeding by many birds (e.g. Kelleher & O'Halloran, 2007; Osborne, 1984) and hazel dormice (Wolton, 2009). They also provide richer and safer feeding for ground-dwelling animals like grass snakes (Reading & Jofre, 2009) and hedgehogs (Hof and Bright, 2010), and contain more deadwood habitat for saproxylic³ insects. Dense (and wide) hedges, through storing more carbon, will assist with carbon mitigation (Robertson et al., 2012).

Hedges with outgrowths of bramble, rose, ivy *Hedera helix* or suckering blackthorn or elm are highly beneficial to a wide range of species. The resulting wavy edges increase the availability of warm, sheltered spots for insects such as butterflies, bees and hoverflies (Merckx & Berwaerts, 2010), and are analogous to the scalloped edges widely promoted for woodland rides (Stephens, 2005). "Soft" edges are also known to be favoured by saproxylic beetles (Wermelinger et al., 2007). Bramble, rose and ivy flowers are favoured nectar sources for many insects, including a wide range of butterflies (Dover, 1996) and other pollinators (Jacob et al., 2010). The outgrowths provide the dense structures required for successful breeding by a range of farmland and woodland birds and dormice, conditions which may otherwise be absent from the landscape (Bright & Macpherson, 2002; Wolton, 2009).

Key management: Encourage flowering and fruiting by trimming shrubs only once every three or more years, and/or raising the cutting height on each occasion. Trim hedges on a rotation, so only a third or less are cut each year, scattered across the farm. Mature hedgerow trees are of far greater value to biodiversity than the area they occupy within the landscape would suggest (Forest Research, 2009). They attract large numbers of insects, including moths and true flies (Merckx et al., 2009b, 2010b, 2012; Peng et al., 1992). These in turn provide sources of food for birds and bats

Fertilizer inputs fundamentally alter the ecology of hedge habitats (Critchley et al., 2013; Sheridan et al., 2009). When they enter the base of hedges and immediate margins, they can lead to a dominance of nettle *Urtica dioica*, goosegrass *Galium aparine* and docks *Rumex* spp., with consequent loss of biodiversity. This is a major issue across both grassland and arable farmland. Likewise, the increased nutrient status in ditches leads to algal blooms, with consequent de-oxygenation and loss of species.

³ insects dependent on dead/decaying wood or other insects which are so dependent

Ditches within hedges can provide the larval habitat for very large numbers of flies, which although not rare, are an important food source for other insects, birds and bats (Aquilina et al., 2007; Drake, 2001; Oakeley & Jones, 1998). Although the majority of hedge ditches are small and for much of the year only moist at the bottom, some are more substantial and regularly have standing or flowing water. These larger ditches can support good populations of aquatic insects which are of more conservation value in their own, right, such as dragonflies, mayflies and water beetles. Ditch sides increase the cover available for shelter and safe breeding for many animals, can provide valuable sources of nectar for pollinators

ANNEX 1

CHARACTERISTICS OF MEADOW GRASSLAND

- ***They are pastures which are grazed at a low intensity and or, used for haymaking.*** The grazing of small numbers of cattle or sheep prevents scrub and woodland from growing up, without eliminating the more palatable plant species by overgrazing. Low intensity grazing favours a diversity of plant species. ***They have a low fertilizer input from the farmer who manages them.*** They are unimproved grasslands. This means that they largely consist of a mixture of grasses rather than the predominantly Perennial Ryegrass swards of intensive grassland. This mixture will contain wild grasses. The meadow will have had a small fertilizer input. This can be either artificial, or natural fertilizer i.e. dung or slurry. The low input is crucial to the existence of meadows because most wild flowers are adapted to relatively low soil nutrient levels. High soil nutrient levels from intensive fertilization, favour a very few species which thrive under such conditions, at the expense of all the rest.
- ***Meadows have a low output in terms of yield for the farmer.*** The grass yields of meadows will nowhere near match those produced from the ubiquitous, intensively managed grass fields which have largely replaced meadows. Therefore, although meadows require less input from the farmer, they will also support far fewer animals of real cash value than an intensively managed and productive grass field.
- In contrast to meadows, intensively managed grass fields will have been heavily improved with high fertilizer inputs. They will have been ploughed and seeded, usually with one or two genetically improved high yielding grasses such as Perennial Rye Grass (PRG). Other management techniques include spraying to kill unwanted plants such as docks. The grass grown in this way, is a crop as much as any other. It is managed to produce the highest, best quality yields possible, to feed as many animals as possible. After a few years the crop yield may deteriorate for a number of reasons. It will then be ploughed again and resown. This kind of intensive grass production leaves less room either for diversity, or for wildlife. In contrast, meadows will be very infrequently ploughed. Some may not have been ploughed in living memory. This means that the plant and animal communities have been established over a long period of time.
- ***Hay meadows are cut late in the summer season.*** If meadows are cut for hay, the grass is allowed to grow tall, flower and set seed before it is actually cut. This gives animals, including ground nesting birds living in the meadow, the time to rear their young before harvesting machinery removes their cover. It also allows invertebrates such as butterflies time to complete important stages of their life cycles. The flowers and seeds from the grasses and all the other plants in the meadow also have time to grow and complete their lifecycle. This also provides food for innumerable invertebrates, birds and small mammals.

ANNEX 2

Lowland Derbyshire Biodiversity Action Plan 2011-2020

The Lowland Derbyshire Biodiversity Action Plan was prepared by a partnership of over 90 organisations which includes local authorities, environmental groups and statutory agencies. It is a core document which takes a landscape character-based approach to listing UK priority habitats and species. It sets priorities for action and gives specific targets to focus effort towards halting the loss of biodiversity across our area.

What the BAP is for

The Lowland Derbyshire Biodiversity Action Plan provides local information on which UK priority habitats and species are present across our county, excluding the Peak District. It provides guidance and sets targets for actions to create, link or manage those priority habitats most appropriate to each different landscape character area. Each of these eight so-called 'action areas' in lowland Derbyshire has its own 'area action plan', with additional over-arching actions described within a 'generic plan'.

“The Lowland Derbyshire BAP is an important strategic document. It should be referred to by ecologists, planners, conservationists, grant-giving bodies, and by all those seeking funding for conservation projects, or who are planning environmental improvements or mitigation as part of a planning application. Demonstrating that a proposed action fits in with locally-defined biodiversity action plan priorities and targets is an important requirement that local authority planning departments, as well as grant-awarding bodies, expect to see”.

The current Biodiversity Action Plan for Lowland Derbyshire sets out actions and targets for the period 2011-2020. Even though the Lowland Derbyshire Biodiversity Partnership does not currently have the resources to provide detailed monitoring of every environmental improvement made across Lowland Derbyshire, it believes the overall principles and priorities laid out within the current LBAP will remain valid, moving forward beyond 2020.

The LBAP document should therefore be regarded by local authorities and the Local Nature Partnership as a key document well beyond 2020, and should remain in effect until such time as a further update or replacement is published.

KL is designated as the Derbyshire Claylands. Within that designation the plan shows UK priority habitats. The Primary habitats are hedgerows, meadows and ponds and the secondary is arable field margins. The plan lists priority species such as great crested newts and priority bird species includes farmland birds, invertebrates and moths.

Part of the claylands action area is described as follows:

This is an area of gently undulating to rolling pastoral landscape over Mercia mudstones, sandstones and glacial drift to the west and east of Derby. Small irregular fields are enclosed by mixed species hedgerows with many mature hedgerow trees while the plateau areas have more regular shaped fields with thorn hedgerows and fewer trees. Where the topography allows and on lower valley slopes towards the Trent valley there are areas of mixed farming that provide localised arable habitats. Woodland habitat occurs sparsely but there are important veteran trees associated with historic parklands. There is a dense network of small tributary streams that provide important wetland habitats including rush pasture, mire and fen.

Within the claylands area are seven Derbyshire landscape character types: Kirk Langley is designated as an area of “settled farmlands”

The key sites in the Claylands Action Area are:

- **SSSIs:** Breadsall Railway Cutting SSSI, Hilton Gravel Pits SSSI, Hulland Moss SSSI, Kedleston Hall SSSI, Mercaston Marsh and Muggington Bottom SSSI, Morley Brickpits SSSI.
- **Others:** Great Northern Greenway, Locko Park, Meynell Langley Parkland, Osmaston Park, Radbourne Park, Ravensdale Park.

1. The **primary habitat objective** within the Claylands area is the maintenance, restoration and expansion of wetlands, hedgerows, grassland and parkland habitats to achieve targets in Table 5.1 below.
2. The **secondary objective** is to increase connectivity of semi-natural habitats to create larger habitat complexes using priority habitats wherever possible. New habitats, linking and extending existing networks will be key to achieving this objective.
3. Target renewing Entry Level Stewardship agreement holders to include appropriate actions for hedgerows, farmland birds and field margins.
4. Explore options to work closer with community groups in this area .
5. Investigate and develop one ark site for white-clawed crayfish.
6. Target Parish Councils to join up and support the LBAP partnership .

Specific habitat target areas (primary areas) include lowland meadow, wood pastures and parkland, hedgerows and ponds.

There are many species associated with farmland habitats, some of which are UK BAP Priority Species.

BAP Appendix 1: Species for which Ancient and Species-rich Hedgerows are a key habitat in Lowland Derbyshire

1.1 Priority Species (ie. UK BAP Species recorded in this Priority Habitat in Lowland Derbyshire) (see table)

Location of Priority Habitats in the Landscape:

Primary features:

Wood-pasture and Parkland: Scattered across the area with fine examples at Kedleston, Meynell Langley, Locko Park, Osmaston Park, Radbourne Park, Snelston Park.

Veteran trees: Mainly found in the parks, but also in fields, hedges and woods across the area.

Hedgerows: Widespread throughout the area.

Lowland Meadow: Main concentration in the Mercaston Brook catchment between Hulland Ward and Kedleston .

Ponds: Main concentration between Osmaston and Kedleston.

Secondary features:

Lowland mixed deciduous woodland: A swathe across the northern part of the area, mainly estate woodlands around Kedleston, Osmaston, Snelston.

Wet woodland: Small scattered good examples of alder carr woodland adjacent to watercourses.

Field Margins: Widespread across the area.

Floodplain Grazing Marsh: Mainly on the Erewash, with smaller examples on the Hilton and Foston Brooks.

Rush Pasture: Mainly around Mercaston.

Lowland Dry Acid Grassland: Around Ashbourne, and Mercaston.

Lakes: Mainly associated with the parklands.

ANNEX 3

HEDGE MANAGEMENT

The management of a hedge significantly affects its biodiversity value. Traditionally this was done by **laying** on a rotation to maintain the structure of the hedge and periodic trimming so that it remained stock-proof. In the last ten years the amount of hedge-laying appears to have increased. Modern methods rely on trimming with a flail cutter which eventually leads to a loss of structure. This may no longer be of concern for keeping in stock, but it is important for nesting birds. Structure is an important factor in the value of hedges for wildlife, but the adjacent field margins are also critical for some species. Modern, mechanised hedge-trimming enables a similar treatment of all hedges at the same time, resulting in over-uniformity. It contrasts strongly with the rotation of traditional management round the farm over several years, which was important for wildlife.

Regular over-cutting reduces the ability of species like hawthorn to produce flowers and fruit. It not only limits bird-nesting opportunities, but also the availability of hedgerow food in autumn and winter. By contrast, over-neglect leads to tall, overgrown hedges, which can temporarily be valuable for wildlife, but which soon deteriorate further. They become gappy and eventually end up as just a line of mature hawthorns or other individual trees.

Hedgerow trees are an important feature, not only for the habitat they provide and as song posts for birds, but also as a significant part of the tree resource generally. In 1980 the Forestry Commission estimated that there were 133,000 hedgerow trees in the whole county and, although this figure will be even lower now, there are still areas of Derbyshire where they form an important feature. Even where mature trees still occur there are very few new saplings appearing. Positive action is needed to reverse this situation because flail mowing removes all young growth.

Hedgelaying, rotational and diverse cropping, seasonal grazing, and leaving winter stubble and field margins are just some of the farming methods that have become less common in recent years, despite having many benefits for wildlife, the environment and food production.

Plant diversity within a hedgerow is dependant on the origin, history and particularly the continuity of the hedge. In general, the older the hedge, the greater the diversity. The richest are assart⁴ hedges, which have a diverse, relict woodland flora and fauna. The oldest are often Parish boundary hedges, now over a thousand years old, but more recent ones may also be species-rich, depending on their origins. Enclosure hedges dating from the end of the eighteenth century may be diverse, but often only one or two species were originally planted, since that was what was available. In relation to dating hedgerows Historic England, on its website states:

“In some areas, large numbers of hedges were planted as a result of the Enclosure Acts, the bulk of which were between 1760 and 1820 and in some instances the hedge itself may be protected by the specific Enclosure Act.

⁴ woodland (assart) hedges, formed out of woodland trees/shrubs left as remnants after woodland clearance

Some hedges may be much older than this. A formula has been developed for dating hedges based on the number of tree and shrub species per unit length. This is known as the 'Hooper formula'. The number of tree and shrub species in a 30 metre length of hedge can indicate its age, with one species for each 100 years. A single species hedge is likely to be less than 100 years old whilst a 1,000 year old hedge is likely to contain ten to twelve species.

*However, this formula must be used with caution. Hedges may have been planted with a mixture of species and there is geographical variation. In upland areas and the north of England hedge species are less diverse. There are also species of shrubs and herbs that are characteristic of old hedges or woodland, such as Spindle (*Euonymus europaeus*), Wild service (*Sorbus torminalis*) or Wood anemone (*Anemone nemorosa*)."*

Even though the loss of hedges has been significant over much of this Local BAP area, they are still probably the single most important visual and wildlife features in much of the farmed landscape today, especially where intensification has decreased the diversity of the fields and removed other features such as ponds and wet areas. Where they do survive, they provide shelter, corridors, food, over-wintering and breeding sites for a variety of animals and a habitat for many plants unable to survive in the adjoining fields. Hedgerows are a critical element in linking other wildlife features together across the landscape into a coherent and connected network.

ANNEX 4

Field Boundaries

For the purposes of the LBAP, the term 'field margin' refers to any strip of land lying between crops and the field boundary, extending for a limited distance into the crop, which are deliberately managed to create conditions which benefit key farmland species. They can take a variety of forms, the principal types being:

- A **'Wildlife Strip'** 6m wide adjacent to a cereal crop, together with a 1 m **'Sterile Strip'** between the wildlife strip and the crop. The wildlife strip is cultivated once a year but not cropped; the Sterile Strip is maintained so as to prevent aggressive arable weeds spreading into the adjacent cereal crop.
 - A **'Conservation Headland'** either 6m or 12m wide forming the outer margin of the crop and separated from an adjacent field boundary or other vegetation by a 1 m Sterile Strip. The Conservation Headland is cropped with cereals but is managed with reduced inputs of pesticides so as to favour wild arable plants and invertebrates.
 - A **combined Wildlife Strip and Conservation Headland**, separated by a Sterile Strip and managed as described as above.
 - **Game crops, stubble or grassland fallows** lying between annually cropped land and the field boundary.
 - **Beetle banks**, which are tussocky grass banks about 2m wide. These link existing field margins by crossing the middle of an arable field
1. Field margins are described in the LBAP as providing nesting and feeding sites for game birds and some passerines⁵. They also provide a shelter and habitat for butterflies, grasshoppers, and plant bugs as well as small mammals.
 2. Field margins can be enhanced by sowing with an appropriate seed mixture, or by allowing margins to develop for the natural seedbank. The species composition of the margin can be tailored for a particular species such as grey partridge. The structure of the margin is particularly important for the animal species, providing cover, nesting, breeding and feeding sites, as well as corridors for movement, although the diversity of plant species in a field margin is also clearly important for general biodiversity. Its proximity to boundary features and other habitats which are or can be of importance, is also an important factor in determining the specific value of each area and the need for more conservation directed management.

To be effective for wildlife, field margins have to be managed correctly, and this includes restricting the type and amount of herbicides applied.

⁵ Often inaccurately called songbirds - not all of these birds are equally vocally adept - most birds in this classification do share many characteristics,

ANNEX 5

Legal protection for hedgerows

You could be fined up to £5,000 if you break the rules for removing certain hedgerows. If you're formally charged you could get an unlimited fine (under the Hedgerows Regulations 1997)

A countryside hedgerow is protected if it's:

- a boundary line of trees and shrubs that at one time was a continuous line
- more than 20m long with gaps of 20m or less in its length
- less than 20m long, but meets another hedge at each end
- less than 5m at its base

Hedgerow location

A countryside hedgerow is protected if it is on or next to:

- land used for agriculture or forestry
- land used for keeping horses, ponies or donkeys
- common land
- a village green
- a site of special scientific interest
- a protected European site such as a special area of conservation or special protection area
- a national nature reserve
- a local nature reserve
- a public right of way
- Crown land

Hedgerow age - 'important' hedgerows

An important hedgerow must be protected. The local planning authority (LPA) will refuse permission to remove an important hedgerow.

A hedgerow is known as 'important' if it's at least 30 years old and is at least one of the following:

- marks all or part of a parish boundary that existed before 1850
- contains an archaeological feature such as a [scheduled monument](#)

- is completely or partly in or next to an archaeological site listed on the [Historic Environment Record \(HER\)](#), (formerly the Sites and Monuments Record)
- marks the boundary of an estate or manor or looks to be related to any building or other feature that's part of the estate or manor that existed before 1600
- is part of a field system or looks to be related to any building or other feature associated with the field system that existed before the Inclosure Acts (that is before 1845)
- contains [protected species listed in the Wildlife and Countryside Act 1981](#)
- contains species that are endangered, vulnerable and rare and identified in the [British Red Data books](#)
- includes [woody species](#) and [associated features](#) as specified in the regulations

The number of woody species needed to meet the criteria is reduced by one in northern counties. [See 7\(2\) of the Hedgerows Regulations](#) for the counties affected.

When you do not need to apply to remove a hedgerow

You do not need to tell the LPA that you are removing a hedgerow if:

- it is less than 20m long and doesn't meet another hedge at either end
- it is in or borders a domestic dwelling
- you are making a new opening to replace existing access to the land (the previous access gap must be filled by planting a hedge within 8 months of making the new opening)
- you are correctly managing the hedgerow by laying or coppicing
- there is no other cost-effective way of accessing your land
- you need to create a temporary access point for emergency purposes
- the land is needed for national defence purposes
- it is for carrying out work for which planning permission has been granted or is [permitted development](#) under the Town and Country Planning Order 1995
- it is to eradicate or prevent disease or tree pests by law, for example a [plant health \(forestry\) order](#)
- it is to prevent interference with electric power lines and apparatus by law
- it is to complete drainage or flood defence works by law
- new trunk roads or motorways are being built on the site

If work is permitted by these regulations you should check with your LPA that there's no other restriction on the hedgerow.

Threats to hedgerows

Neglect of hedgerows can be evidenced by no cutting or laying, leading to hedgerows changing into lines of trees and the development of gaps. This reflects modern high labour costs and loss of traditional skills.

Poor cutting is evidenced by cutting too frequently and badly timed cutting leading to poor habitat conditions, the development of gaps and probable species changes.

Loss of hedgerow trees through old age and felling, without encouraging replacements is another consequence of poor maintenance.

Ploughing over-close to hedges can virtually eliminate the herbaceous fringe. Deep ploughing too close to hedgerow trees can also damage roots, leading to death. This is a problem for instance, with ancient oaks in hedgerows.

The use of herbicides, pesticides and fertilisers right up to the bases of hedgerows leads to nutrient enrichment and a decline in species diversity.

Over-stocking, particularly of sheep, leads to hedgerow damage and the need to fence fields. The presence of fences reduces the agricultural necessity for hedge maintenance and so hastens their decline. The modern practice of "ranching" (placing netting around several fields to form a grazing block) also contributes to the deterioration of internal hedges.

Over-management of hedgerows is one of the biggest problems facing species that live in this habitat type. The practice of annual cutting using a mechanical flail creates a uniform and species-poor hedgerow that is of little value to wildlife. Mechanical flailing also makes the option of leaving selected saplings to become hedgerow trees much more difficult. Attention should be given to creating a well-structured hedge with a variety of habitat niches for a wide range of invertebrate species.

The Single Payment Scheme (SPS) with the Rural Payments Agency (RPA), GAEC 15 states that recipients must not cut or trim any hedgerow on your farm between 1 March and 31 July (inclusive) – the main breeding season for birds – each year unless such work is necessary because any of the following apply:

- the hedgerow overhangs a highway, road or footpath over which there is a public or private right of way and the overhanging hedgerow obstructs the passage of, or is a danger to, vehicles, pedestrians or horse riders;
- the hedgerow is dead, diseased, damaged or insecurely rooted and is likely to cause danger by falling on to a highway, road or footpath; or obstructs the view of drivers or the light from a public lamp;
- to carry out hedge-laying or coppicing during the period 1 March to 30 April (inclusive);
- to trim a newly laid hedgerow by hand, within 6 months of it being laid;

If works need to be undertaken within the dates stated above, and which are not listed above, an application must be made to the RPA in writing for an exemption.

If the hedge is entered into an agri-environment scheme (such as Entry Level Stewardship (ELS), Higher Level Stewardship (HLS), Organic Entry Level Stewardship (OELS), Uplands Entry Level Stewardship (UELS), Countryside Stewardship Scheme (CSS) or the Environmentally Sensitive Area scheme (ESA) you must not cut hedgerows during the main bird nesting season which is taken to be from 1 March to 31 July (inclusive). However, some agreements might further restrict these dates, in particular ELS agreements starting on or after 1 October 2008 where you must not cut

hedgerows between 1 March and 31 August (inclusive). They also may advise the following:

1. Only a proportion of the total hedgerow in any given area should be cut in a single year, to ensure that over-wintering species are not completely eliminated. This could involve cutting only one side of a hedge to allow invertebrates to recolonise, or managing different sections of a hedge in different years. Rotating the cutting over several years will ensure that invertebrate breeding and feeding places will always be present and that plants, such as white bryony or ivy, are allowed to flower each year. It will also ensure that some shaded areas are retained.
2. On larger sites, variation between hedges on the site may be more practical to achieve than managing sections of a single hedge and may have the same effect.
3. Hedges should not be cut annually unless there is an access issue, such as with those alongside roads and footpaths. Cutting every three or more years will allow hedge plants to produce flowers and berries and achieve a better structure. Annual flailing has had a severe impact on many species of butterfly and moth. Hedgerow caterpillars, such as those of the nationally scarce small eggar moth (*Eriogaster lanestris*), have undergone a major decline due to over-zealous hedge trimming. Species such as the Lackey moth (*Malacosoma neustria*) and Brown hairstreak butterfly (*Thecla betulae*), which overwinter as eggs on shoots and twigs, are also very vulnerable to annual flailing. Repeated flail cutting at the same height will eventually produce a mass of scar tissue and dead branch ends which support few healthy shoots. If the flail cut is taken back to the main upright trunk of hedges, the bark can be torn off. Flails should therefore not be used on larger branches and woody material, to reduce the amount of splintering of cut branches. For heavy hedges, a circular saw is preferable, as the branches are cut with a clean finish, lessening die-back and fungal infection.
4. Hedges should be cut after most of the berries have gone; cutting when the hedge is in foliage or flower or still bears a large number of berries will remove invertebrate food sources. Late winter is the best time, but attention must be given to the fact that many insects have stages that over-winter in hedgerows, both on the twigs and on the herbage. The Scarce vapourer moth (*Orgyia recens*) is almost exclusively found in hedgerows; its over-wintering larvae are often destroyed by flailing.
5. Hedge structure is best improved through traditional hedge laying techniques but this should, if possible, be carried out on a rotational basis so that the entire length of the hedge is not laid at any one time. Although hedge-laying is more time-consuming, it does have the advantage of prolonging the life of the hedge and encouraging the growth of new shoots. Laying needs to be repeated every 15 years or so, during which time flail cutting can be used to check growth.

ANNEX 6

Wildlife observed in Kirk Langley Parish by committee members

[this is an indicative list only and not to be regarded as a complete record]

Mammals

Fox
Brown hare
Rabbit
Badger
Squirrel (grey)
Mouse (harvest, field)
Shrew
Deer (roe) (rare)
Stoat
Bats (unknown type)

Birds

Game

Red-legged partridge
Pheasant

Predators

Owls; little, barn, tawny, long-eared
Common buzzards
Sparrowhawk
Kestrel

Farm birds

Skylarks
Fieldfare
Yellowhammer
Curlew (now rare)
Lapwing
starling

Garden and woodland birds

chaffinch,
robin,
goldfinch,
greenfinch
bullfinch
wren
blackbird
thrush
tits; blue, great, coal, long-tailed
nuthatch,

Woodpecker (green, great spotted)
Crow
Magpie
Pied wagtail
House martin
Swallow
Sparrow (tree and house)
Collared dove
Woodpigeon
Cuckoo (not in recent years however)
Dunnock
Jay

Water birds

Moorhen
Coot
Heron
Mallard
Swans (lake at Nether burrows)

Amphibians

Frog (common)
Toad (common)
Newt (smooth)

Butterflies

Meadow Brown
Red admiral
Large white
Peacock
Tortoiseshell
Orange tip
gatekeeper