Site at Wynall Lane South

Preliminary Ecological Assessment and Local Sites Assessment (Brief)

For Client:

D T Ruston Associates Properties Ltd

October 2018

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APPENDICES:

SUMMARY

The Phase 1 preliminary ecological appraisal is undertaken in order to identify key ecological constraints to the proposed development; inform planning to allow significant ecological effects to be avoided or minimized; identify any further ecological surveys needed to inform an ecological impact assessment and to support the development of mitigation of compensation measures. It is further a tool to enable the assessment of the existing site's Nature Conservation based site criteria. The site lies in the Green Belt and is designated as a Site of Local Importance for Nature Conservation (SLINC) within the adopted Development Strategy.

Methodology

The survey was conducted by carrying out a systematic walkover of the site by [redacted] to record habitats, species, and any notable features of interest with regard to flora & Fauna. This is in accordance with standard Phase 1 survey techniques and is a methodology recommended by the Institute of Environmental Assessment (1995) and guidance from CIEEM (2013).

Key Issues and Conclusions

This Phase 1 Ecology Report illustrates that the majority of the site is of 'moderate ecological value', there are existing features of ecological value within the development sites that have potential to be lost or negatively impacted upon by the development. The developing woodland and hedges are of moderate wildlife value.

To enable a fuller site assessment, which would be needed if development proposals were to be considered for this site, the following further ecological surveys are recommended, as follows:

- Bat activity surveys in accordance with BCT Good practice survey guidance, 2016.
- Pre-development badger survey and clearance of dense bramble scrub under ecological supervision for badger. A license in respect of development is a likely requirement.
- Hedgerow survey
- Presence: absence Reptile survey.
- Great crested newt: Presence: absence survey
- Invertebrate surveys

- Nesting bird checks if any development or clearance is carried out within the bird nesting season.
- Construction Environmental Management Plan.
- An Ecological Enhancement Scheme.
- Management plan for retained or created habitats.
- BS5837 Pre-development tree survey

The survey concluded that:

- **The current habitats present on site are likely to be adequate to maintain it's current status as a Site of Local Importance for Nature Conservation.**
- **The site lies entirely within a 'Core Ecological Area' as defined under the Birmingham and Black Country NIA strategy.**
- **There is evidence of protected species on-site (badgers) and it is possible that other protected species may be present (subject to the appropriate surveys**

A range of locally adopted Planning policies should be considered in relation to any proposed development of the site. In particular, the polices note that locally designated sites such as this, are protected from any development that would negatively impact on them and any development of these sites must demonstrate that the development is exceptional and strategically important enough to outweigh the nature conservation value of the site. Substantive development of any such site is unlikely to be off-set fully by on site mitigation and will require both on-site and off-site biodiversity off-setting.

In particular, policy S21 of the Borough Development Strategy (2017) states:

Exceptionally, where the strategic or community benefits of a development clearly outweigh the nature conservation importance of the area impacted upon, Dudley Council will ensure any damage or loss of nature conservation assets is fully offset by additional nature conservation improvement works. It will be expected that these will normally be accommodated on-site. However where there are exceptional circumstances, which prevent this, off-site works will be required instead.

1. INTRODUCTION

1.1. Background

At the request of RCA Regeneration, a Phase 1 Preliminary Ecological Appraisal was carried out at an area of land off Wynall Lane, south, Wollescote, DY9 9AJ , to evaluate the habitats, describe any further surveys required and indicate the biological quality of the land in respect opf it's Nature Conservation status and potential development.

1.2. Site Location

The development zone comprises an area of land located off Wynall Lane, south, Wollescote, DY9 9AJ . The site location is described on the map below. A satellite image and Phase One diagram (see Appendices) also show the areas concerned.

Figure 1. Showing location of land off Wynall lane. *Map data 2018 © Google.*

The outline of the site boundary is shown on plans below.

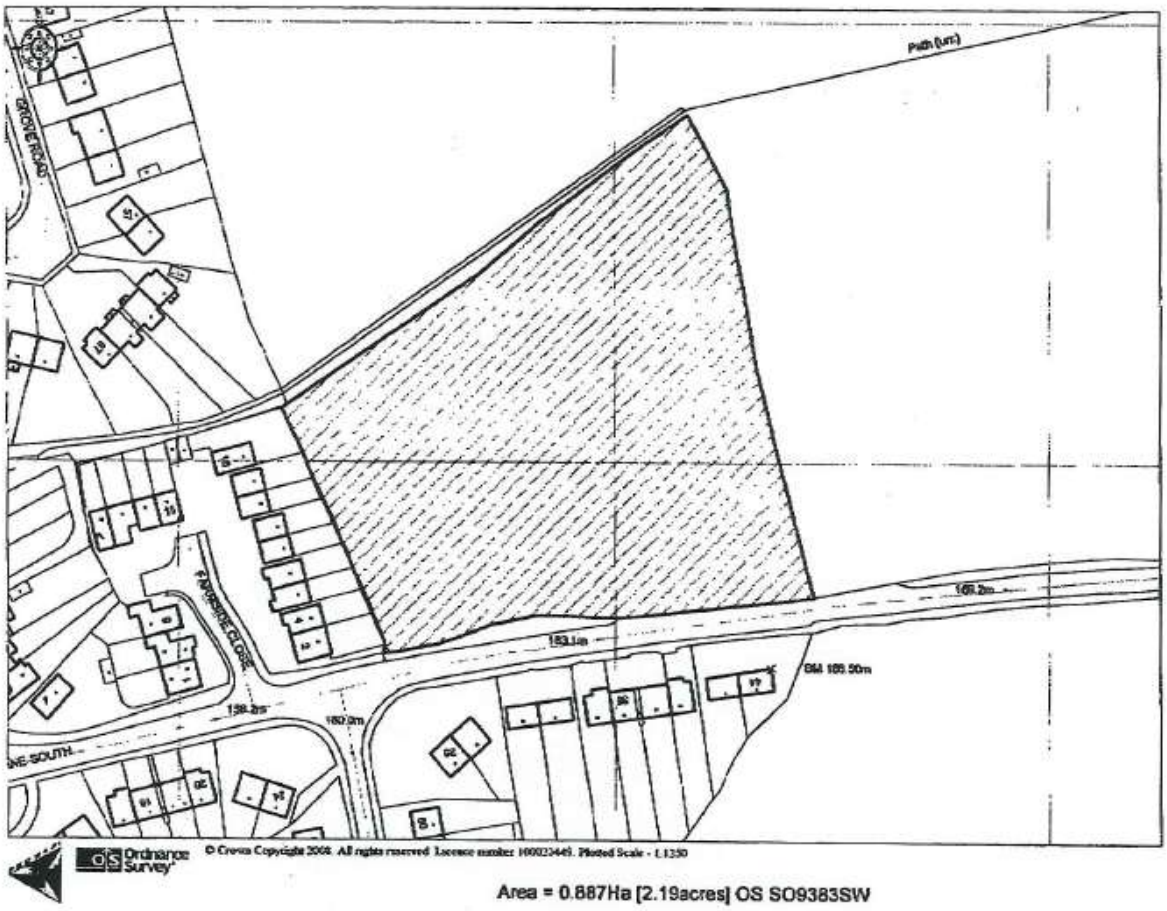
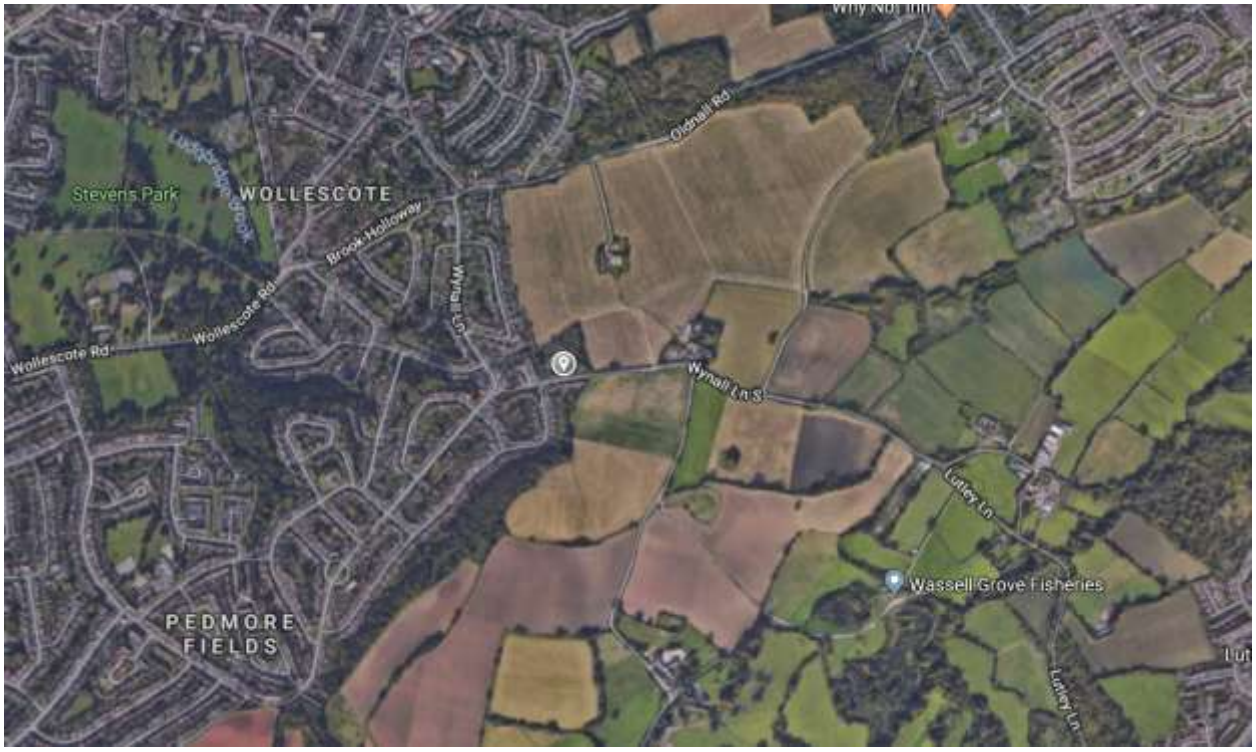


Figure 2. Site Boundary

1.3. Site Description

The site forms an area of scrub (mainly bramble, hawthorn and blackthorn succeeding to native deciduous woodland, surrounded by native hedges with some in-hedge trees on 3 sides. A footpath runs through the western end of the site.



Map data 2018 © Google.

Figure 3. Satellite image of local area around proposed development site.

A satellite image below showing the landscape context of the area concerned. It shows that the site is set at the residential edge of Stourbridge, with residential areas and gardens to the west with remnant agricultural areas adjacent. There are small remnant fields and hedgerows at some distance from the site and small woodland a short distance to the south along Woodlands Avenue.

1.4. Purpose of the Preliminary Ecological Appraisal

The phase 1 preliminary ecological appraisal report identifies key ecological constraints to the proposed development; informs planning to allow significant ecological effects to be avoided or minimized; identifies any further ecological surveys needed to inform an ecological impact assessment and supports the development of mitigation of compensation measures.

It is composed of two parts. A site visit, during which a preliminary ecological appraisal of the site is carried out to identify the major habitat types, plant, bird, reptile, mammal and other species using the site. Also a desk study, which gathers ecological data on the site and its surrounding area, to identify protected species and statutory protected sites on the site and in the vicinity of the site, in order to produce recommendations on the key ecological constraints to any proposed development.

This ecological appraisal also evaluates the site in relation to it's existing status as a Site of Local Importance for Nature Conservation (SLINC).

2. METHODOLOGY

2.1 Desk Study Methodology

Information was gathered from a number of web-based data sources, published ecological reports and where appropriate, the authors own records. The ecological data search covers the following areas:

- Species of particular note
- Local Nature Reserves
- Protected species (badger, grass snake, great crested newts, otter, water vole and bats)

A bespoke data search was obtained from Ecorecord (The Biological database for Birmingham and the Black Country) via Ecountability, which covers protected, BAP and Notable species and Protected sites within 1 km. In addition, a range of other web-based data sources were consulted in addition to the authors own site records.

2.2. Survey Methodology

The survey was conducted by carrying out a systematic walkover of the site by Dr. Stefan Bodnar to record habitats, species, and any notable features of interest with regard to flora & Fauna. This is in accordance with standard Phase 1 survey techniques and is a methodology recommended by the Institute of Environmental Assessment (1995) and guidance from CIEEM (2013).

During the survey, emphasis was placed on searching for evidence of and potential of habitats and features supporting protected or notable species, especially those listed under the Conservation of Habitats and Species Regulations 2010, the Wildlife & Countryside Act 1981 (as amended), the List of Species & Habitats of Principle Importance for Conservation of Biological Diversity in Wales (Wales Biodiversity Partnership,2007) and in local Biodiversity Action Plans.

The range of methods used were as follows:

Bats

The trees within the site were appraised for their potential suitability to support breeding, resting and hibernating bats in accordance with survey methods documented in the Bat Surveys:

Good Practice Guidelines (Bat Conservation Trust 2012). Features of medium and high potential for bats were searched for signs of use by bats, such as droppings, urine staining and scratches around entrance holes etc.

A visual inspection of the trees from ground level with the aid of binoculars was undertaken to search for evidence of actual bats as well as signs of bats (droppings, feeding remains, urine staining, scratch marks, noise and the remains of dead bats etc.). In addition, the trees were assessed for the presence of features likely to be attractive to roosting bats, such as cavities or rot holes in the trunk or branches, splits in the timber, delaminating bark, deep bark crevices, dead branches and dense ivy cover etc.

In accordance with the methodology outlined in the Bat Conservation Trust's Bat Surveys: Good Practice Guidelines (2016) trees were assigned to the following categories:

- **Known or Confirmed Roost** - signs of bats (droppings, etc) or actual bats recorded; or previous records of bats in tree
- **High (Category 1*)** – trees with multiple, highly suitable features capable of supporting large roosts
- **Medium (Category 1)** – a tree with definite bat potential; fewer features than category 1* or potential for single bats
- **Low (Category 2)** – No obvious potential, although tree of size and age that elevated surveys may result in cracks/crevices being found; or tree has some features which have limited potential to support bats
- **Nil (Category 3)** – no potential to support bats

- The site was also assessed for potential bat foraging areas and commuting routes.
- Features of medium and high potential for bats were searched for signs of use by bats, such as droppings, urine staining and scratches around entrance holes etc. The site was also assessed for actual and potential bat foraging areas and commuting routes. Buildings within the site were assessed in accordance with the methodology outlined in the Bat Conservation Trust's Bat Surveys: Good Practice Guidelines (2016)

Reptiles

The site was assessed for its suitability to support reptiles based upon the abundance of suitable habitats such as structurally diverse habitats, hedgerows, scrub, rough grassland, wood piles, rubble, banks and compost heaps etc. The site was assessed with respect to its potential for use for hibernation and spring/summer use based on guidance provided in the Herpetofauna Workers' Manual (Joint Nature Conservation Committee 2003) and the Reptile Management Handbook (Edgar, Foster & Baker 2011).

Badgers

The whole site was searched systematically, with particular attention being paid to features likely to support badger setts (e.g. earth embankments, wooded copses etc.). The location of all badger signs such as runs, dung pits, prints, hair, foraging snuffle holes found during the survey were mapped and all setts characterised as either main, annex, subsidiary or outliers in accordance with guidance given in Surveying Badgers (Harris, Cresswell & Jefferies, 1988).

Birds

All birds observed during the field survey were recorded, in addition to features capable of supporting nesting birds (e.g. trees, hedgerows, buildings, bramble beds, ruderal vegetation and rough grassland etc). The sites was also assessed for its actual and potential suitability to support Schedule 1 and Biodiversity Action Plan priority species.

Other Species

The site was also assessed for its actual and potential suitability to support other protected or notable fauna in accordance with the Guidelines for Preliminary Ecological Appraisal (Chartered Institute of Ecology and Environmental Management, 2013).

2.3. Site Location and Access

Wynall Lane, south, Wollescote, DY9 9AJ

All areas of the site were available for access.

2.4. Date and Time of Survey

The site assessment was conducted on 18th October 2018.

2.5. Weather Conditions

The weather conditions during the survey were warm and dry.

2.6. Survey Constraints

Owing to the time of year the initial survey took place it can be considered to provide a reasonable, though not exhaustive plant list. This survey noted the habitat types on the site, and the dominant vegetation at the time of the survey, which is likely to be constant and a fair reflection of the habitat quality present.

3. RESULTS

3.1 Desk Study Results

A bespoke data search was obtained from Ecorecord (The Biological Database for Birmingham and the Black country) See summary below:

eCountability
Managing your biodiversity risks and opportunities

In Partnership with

EcoRecord
the ecological database for Birmingham and the Black Country

THIS SUMMARY PAGE MAY BE PUBLISHED
THE FULL REPORT AND MAPS MAY NOT BE PUBLISHED IN THE PUBLIC DOMAIN

Ecological Data Search 12392 - Summary Page

A 1000m ecological data search was carried out for site Wynall Lane south Wollescote on behalf of Stefan Bodnar on 25/10/2018.

Results

Special Areas of Conservation (SAC)	0	records found
Site of Special Scientific Interest (SSSI)	0	records found
National Nature Reserve (NNR)	0	records found
Local Nature Reserve (LNR)	0	records found
Sites of Importance for Nature Conservation (SINC)	5	records found
Sites of Local Importance for Nature Conservation	8	records found
Potential Sites of Importance (PSIs)	7	records found
Protected, BAP and Conservation Concern Species	109	records found
Species listed on Schedule 9 of the Wildlife and Countryside Act 1981	17	records found
Wildlife Corridors	2	records found
Ancient Woodlands	3	records found

The report is compiled using data held by EcoRecord at the time of the request. Note that EcoRecord does not currently hold comprehensive species data for all areas. Even where data is held, a lack of records for a species in a defined geographical area does not necessarily mean that the species does not occur there.

Permission

This data search report is valid until 25/10/2019 for the site named above.

Prepared by Dave Ritchie.

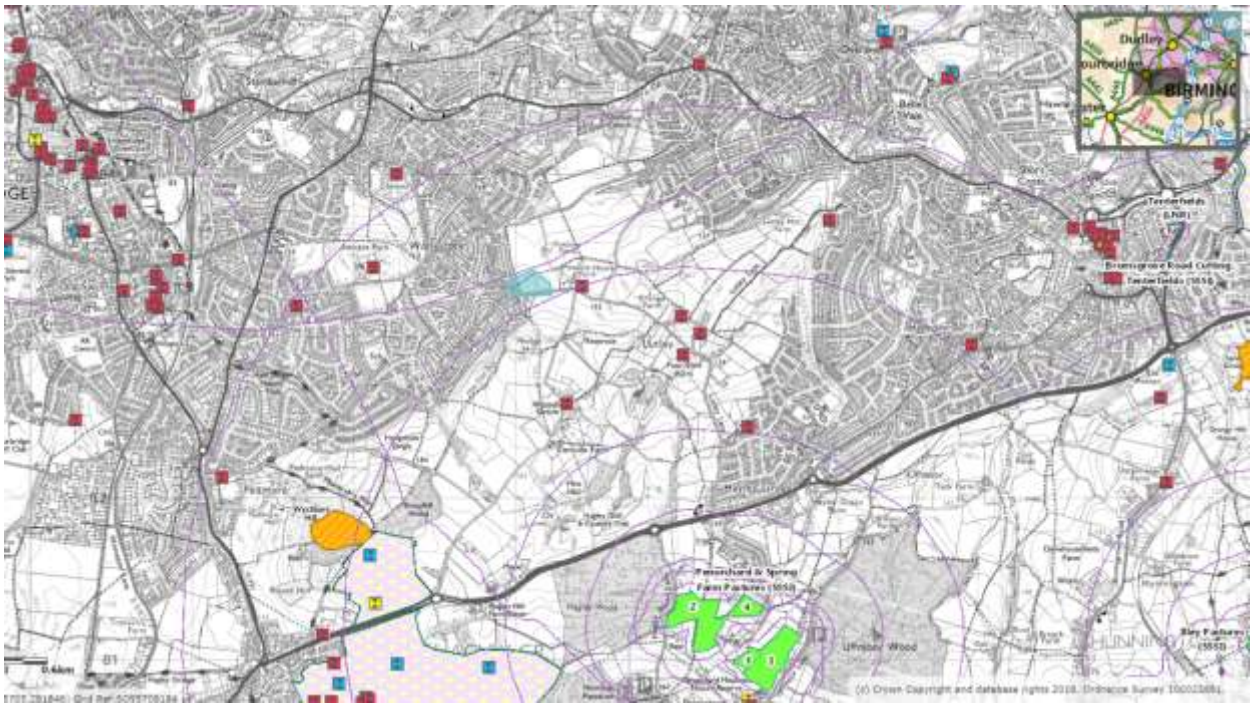
25/10/2018

Prepared by eCountability Ltd (enquiries@ecountability.co.uk) on behalf of:
EcoRecord - the ecological database for Birmingham and the Black Country Registered Office: 16 Greenfield Crescent, Edgbaston, Birmingham, B15 3AU
T: (0121) 454 1808 E: enquiries@ecorecord.org.uk

3.1a Statutory & Non Statutory Nature Conservation Sites

The maps below show all Statutory and Non Statutory Nature Conservation Sites (this includes Sites of Special Scientific Interest, Local Wildlife Sites, Ecosites, Local Nature Reserves, Special Areas of Concern) within 5km of the proposed development.

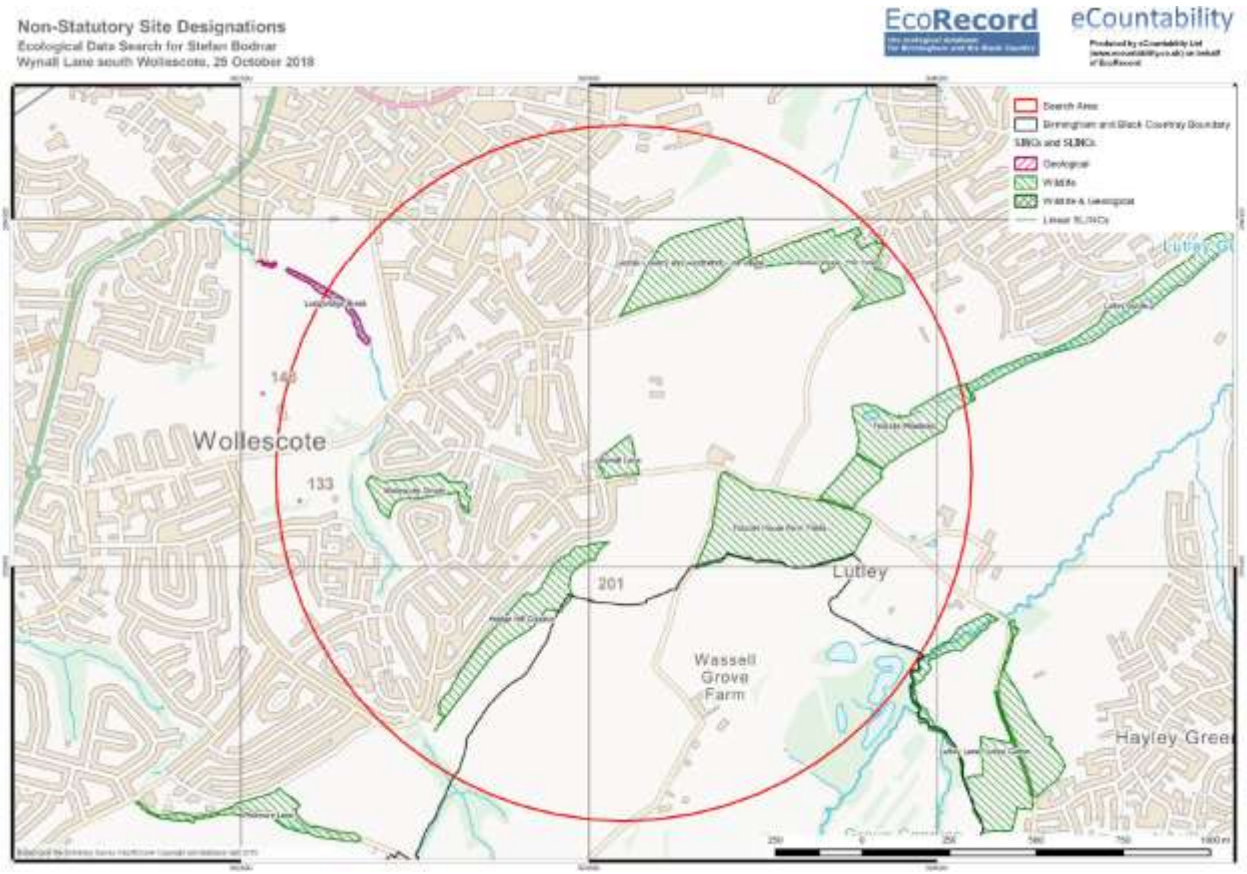
A Natural England 'Magic' data search (shown below) reveals that the site lies within a Nitrate Vulnerable Zone for surface water and ground water, and the SSSI impact zones for Penorchard and Spring Farm Pastures SSSI, the nearest Statutory Designated site at 1.8 km SE, this should be considered in relation to any construction operations.



(c) Crown Copyright and database rights 2018. Ordnance Survey 100022861.

(Abbreviations: SSSI Special Scientific Interest, LNR Local Nature Reserve, SAC special Area for Conservation)

In terms of Non-Statutory designations, the entire site is designated as a Site of Local Importance for Nature Conservation (SLINC). See designation information below:



Site Name	**Wynall Lane**	Site ID	DY173
Status	Sites of Local Importance for Nature Conservation (SLINCs)	Type	Wildlife
Grid Ref	SO931833	LPA	Dudley MBC

Reasons for designation
Small unmanaged field bordered by old hedgerow and whose eastern half is being encroached by scrub. Field had been unmanaged since at least 2000 and was possibly former allotments (Google Earth)

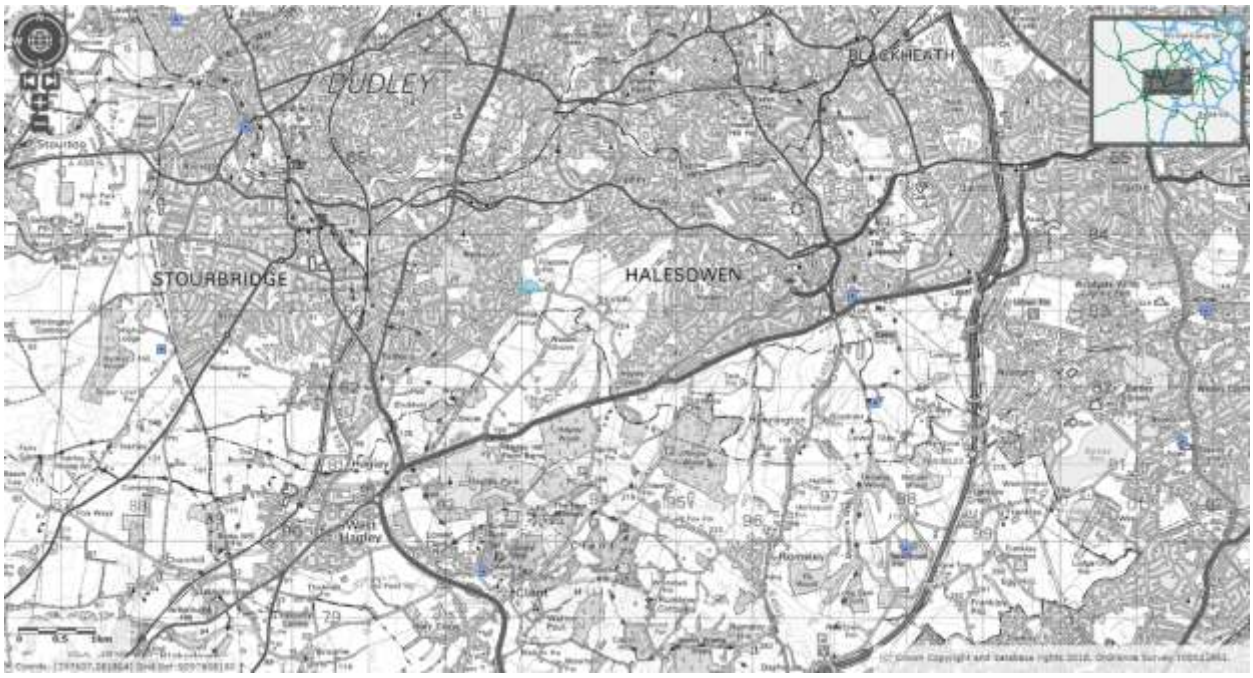
Habitats of note
Hedgerow, Grassland, Tall herb, Scattered scrub

3.1b. Protected & Notable Species Records

In relation to protected and notable species, the following were recorded from a variety of online web based resources, a bespoke data search from Ecorecord and in places, the authors own records, presented here with the approximate distances of the nearest record. In addition, a number of Ecological survey reports within the area have been interrogated for protected species records. All records are post-2000 unless otherwise stated.

EPSM Search (Source: MAGIC)

The EPSM search indicates that there are roosts of 5 species within 5 km of the site: Common pipistrelle, Brown long eared bat, Leisler's bat, Noctule bat, Natterer's bat. See map below:



Protected & Notable Species Occurrence Table (selected from data search)

Species (Latin Name)	Common Name	Approximate distance of nearest record from the survey site (km)
Chiroptera	A bat	Within 1 km
Meles meles	Badger	Within 1 km (3 records, one sett recorded)
Lissotriton vulgaris	Common newt	Within 1 km

Bufo bufo	Common toad	Within 1 km

A number of significant bird species which could use the site were noted from the data search including bullfinch, Dunnock, House sparrow, Starling, Song thrush, Mistle thrush and Spotted flycatcher.

Interpretation of Available Biological Data

The available data suggests that there is no evidence of protected species within the survey site. It confirms that no statutory designated sites are adjacent or near to the site. The development will have no impact on those at further distances. In terms of protected species, several common bat species and badger are found within 2 km of the survey site.

3.2 Survey Results

3.2.1. Habitat Types Present & Baseline Ecological Conditions

The following habitats and ecological features were recorded within the site:

- **Native hedges**

There are native hedges along most of the site boundaries, on 3 sides. These are dominated by holly on the northern hedgerow, field maple, hawthorn and blackthorn on the eastern boundary. The southern road boundary hedge contains in-hedge trees of sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior* , *a*nd English oak *Quercus robur*.

The on-site hedgerows were briefly considered in line with DEFRA's Hedgerow Survey Handbook (2007), and considered in relation to the Hedgerow Regulations 1997. The hedgerows surveyed appear of relatively low species diversity and relatively recent origin, and therefore unlikely to constitute Ancient Hedgerows or fall within the category of the UK BAP Priority Habitat (now included under S41 of the NERC Act 2006), however they have value for wildlife and their value should be assessed by a full hedgerow survey should development be considered.

Scrub and developing native deciduous woodland

The site has been un-managed for a number of years and the tall herb vegetation dominated by common nettle *Urtica dioica,* and bramble is now being succeeded by native woodland species such as blackthorn *Prunus spinosa,* hawthorn *Crataegus monogyna,* English oak *Quercus robor,* hazel *Corylus avellana* and ash *Fraxinus excelsior*.

Also see Phase 1 Habitat Map, appendix 1d. A full list of vascular plant species is provided in Appendix 3.

3.2.2. Protected and Notable Species on Site

Bats:

There are 18 species of bat found in the UK, 17 of which are known to breed in the UK. All are small, nocturnal, flying, insectivorous mammals that are under considerable conservation threat and many having undergone severe population declines over the last century. Some species, such as pipistrelle bats (*Pipistrellus* sp) still remain relatively common and widespread in the UK, while others, such as greater horseshoe bats (*Rhinolophus ferrumequinum*), have an extremely restricted distribution. All species of bats and their roosting sites are afforded full protection under both UK and European legislation and are designated as 'European protected species'.

The site has substantive potential as a bat foraging site, being a developing woodland, and the hedgerows and in hedge tress bat commuting routes. There were no mature on-site trees with potential to support roosting bats. Further bat activity surveys are recommended should development of the site be proposed.

Badgers

Badgers (*Meles meles*) are protected in England and Wales under the Protection of Badgers Act 1992. Protection applies both to the animal itself and to its nesting burrows (setts), and current interpretation of the Act also confers some protection to key foraging areas.

There is evidence of foraging badger on the site (tracks, snuffle holes), and it can be confirmed that there are several badger setts within the site edge particularly on the Eastern boundary. Track-ways and foraging sites are noted throughout the entire site. . Badgers are present within 2 km of the site. There are a number of mammal tracks on site and it can be confirmed that in addition, some of these are as a result of domestic cats and fox *Vulpes vulpes.* Moles *Talpa europea,* was also noted on the site.

Due to the dense scrub nature of much of the site, there is a high potential for other badger setts to be present that have not been identified on this survey.

Other species

The presence of other specially protected mammals, such as otter, or water vole, was assessed as extremely unlikely, due to the lack of suitable habitat on the site for these species. Invertebrate surveys are recommended for the site due to it's mosaic habitat characteristics.

Birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence (with certain limited exceptions) to intentionally kill, injure or take any wild bird, or to damage, take or destroy the nest of any wild bird whilst that nest is being built or in use, or to take or destroy its eggs. Furthermore, the Act affords additional protection to specific species of birds listed in Schedule 1 of the Act. In respect of these species, it is unlawful to intentionally or recklessly disturb such a bird whilst it is nest-building or is in, on or near a nest containing eggs or young; or to disturb their dependent young. Following recent revisions, fifty-nine species are listed on the UKBAP.

The following species were recorded on-site during the visit:

Bird Species:	Latin name:

Magpie	*Pica pica*
Wood pigeon	*Columba palumbus*
Buzzard	*Buteo buteo*
Carrion Crow	*Corvus corone*
Goldfinch	*Carduelis carduelis*
Jackdaw	*Corvus monedula*
Blue tit	*Cyanistes caeruleus*
Blackbird	*Turdus merula*
Robin	*Erithacus rubecula*
Mistle thrush	*Turdus viscivorus*
Black headed gull	*Larus ridibundus*
Wren	*Troglodytes troglodytes*
Long tailed tit	*Aegithalos caudatus*
Greater spotted woodpecker	*Dendrocopus major*
Jay	*Garrulous gladarius*
Collared dove	*Steptopelia decaocto*
House sparrow	*Passer domesticus*

The birds listed above were actually recorded on the site itself. The trees within the survey site could also provide suitable for nesting habitat for a number of other common woodland bird species and migrant warblers that favor scrub-land.

It is recommended that any site clearance involving woody vegetation is undertaken outside of the bird breeding season (mid March to mid August). If site clearance is undertaken during these months, a suitably qualified and experienced ecologist should be employed to ascertain the presence of any breeding birds within the site.

Great Crested Newt

The Great Crested Newt (*Triturus cristatus*) is one of the two rarest amphibian species in Britain. It is primarily a terrestrial animal, spending much of its life on land, but returning to the water to breed. Great crested newts will often return to breed in the same waterbody where they were spawned. In addition, they are highly opportunistic and will also colonise suitable new waterbodies rapidly. Great Crested Newt is a 'European protected species' afforded full protection under both UK and European legislation. This protection extends to the habitats which support it. The habitats within 500m of a breeding pond are generally considered to be protected by the legislation. The great crested newt is a priority species and subject to its own Biodiversity Action Plan.

There are no ponds on site. There are no suitable breeding habitats for great crested newt *(Triturus cristatus)* even though the data search reveals the nearest know record within 2 km. The terrestrial habitat is of some suitability for Great Crested Newt, and there are ponds (part of the Lutley Gutter) some 400m East of the site. therefore for any development work to be undertaken presence: absence surveys are recommended, in addition to all appropriate precautions should be taken during development.

Reptiles

There are four widespread species of British reptile comprising grass snake (*Natrix natrix*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*). These animals are protected under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. They are given so called 'partial protection', which prohibits the deliberate killing or injury of individuals. The habitats of common reptiles are not specifically protected.

In terms of reptiles, the on-site habitats show some suitability, indicating that the presence of these species is possible. Further presence: absence surveys are recommended and appropriate precautions should be taken during development for these species should the area be considered for development.

4.0. DISCUSSION

It is important that any proposed development should demonstrate no net loss of biodiversity from the site. This is a duty placed on Local Authorities in the Natural Environment and Rural Communities Act 2006, Section 40. There are requirements noted for this under The National Planning Policy Framework (2012) which refers to compensation/ mitigation. It is confirmed that the enhancement, mitigation and compensation within this section will comply with all the relevant UK and EU legislation relating to protection and enhancement of ecology.

4.1. Ecological Constraints

The value of the majority of the site, in terms of ecological value to wildlife, is moderate in particular the developing deciduous woodland and native hedges. The habitats present within the area consists of the following elements (see Phase 1 Habitat Map in Appendix 1d).

- Scrub developing to deciduous woodland
- Native hedges

Non-Statutory Nature Conservation Assessment: Context

The current status of the site is of a SLINC, a Site of Local Importance for Nature Conservation. Birmingham and the Black Country also contains a large number of sites which are important for their nature conservation value, which are not covered by statutory designations - these do not have a statutory status, but are recognised in the planning system. Sites such as these are known as Local Sites. Nationally there are a number of different terms in use to describe Local Sites. In Birmingham and the Black Country the titles '**Sites of Importance for Nature Conservation' (SINCs)** and '**Sites of Local Importance for Nature Conservation' (SLINCs)** are used. These include sites of geological importance. SINCs and SLINCs are identified through a process of site survey, and then, using the information gathered, evaluation against the Local Sites criteria. Due to the dynamic characteristics of the landscape, sites may lose or gain ecological interest. The Local sites criteria were reviewed in September 2018 (Birmingham and the Black Country Local Wildlife and Geological Sites Guidance for Selection).

Non-Statutory Nature Conservation Sites are protected in Dudley under the Nature Conservation Revised Supplementary Planning Document, 2016.

4.1 Ecological value

Assessing the site was against the following criteria:

4.1 a Local Sites Criteria: The front sheet of the assessment criteria is shown below.

Sufficient time was not available to conduct a full review of all aspects required to undertake a Site's assessment, and many of the criteria to be assessed there is limited or no available information. However in the professional opinion of the author, who has extensive experience in site criteria and designation in Birmingham and the Black Country, the habitats present of native hedgerows and scrub developing to Native deciduous woodland, are adequate to maintain it's current level of designation as a Site of Local Importance for Nature Conservation (SLINC)

Birmingham & Black Country Local Sites Assessment Report

EcoRecord Reference	Site Name	Grid Reference	Designation(s)	Survey Date(s)
Planning Authority	**Site Ownership**	**Area/Length**	**Reason for Survey**	**Report Date**

Meets LS Criteria		Type		i.e. Wildlife/Geological

Amendment(s)		i.e. None; New Site; Upgrade; Downgrade; Extension; Whole/Part Deletion
Description		

Citation (Summary of Value)

Local Site Selection Criteria			
Ecological			
Habitat Diversity			
Species Diversity			
Habitat Rarity			
Species Rarity			
Size or Extent			
Naturalness			
Position & Connectivity			
Geological			
Intrinsic	Palaeontology		
	Stratigraphy		
	Structure		
	Physiography & Geomorphology		
Rarity			
Ass. with Other Sites			
Social			
Historical & Cultural			
Access			
Aesthetic			
Recorded History			
Value for Learning			

4.1 b Birmingham and Black Country Nature Improvement Area Ecological Strategy (2017-2022)

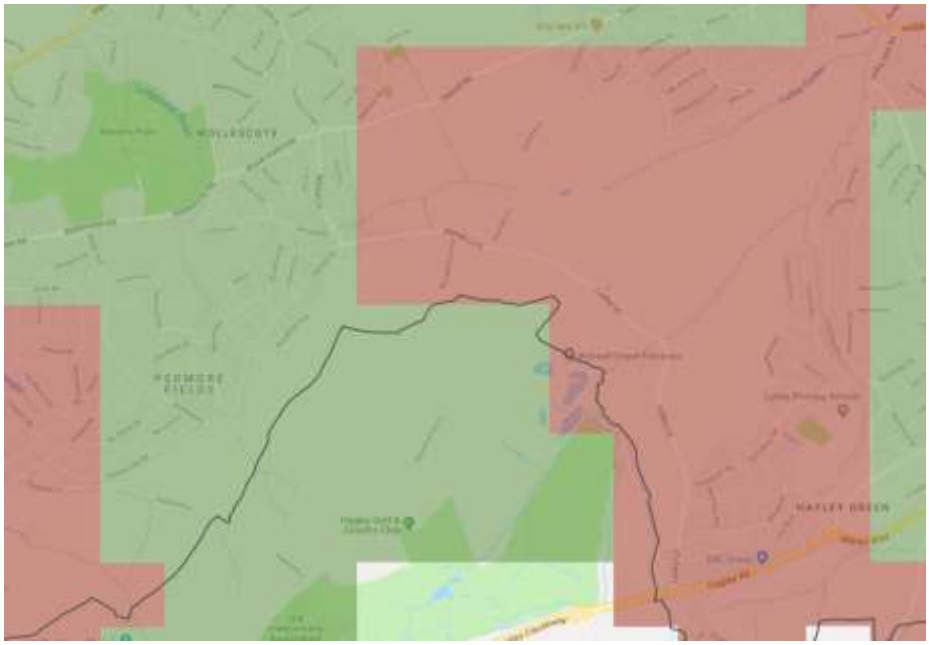
The ecological network of Birmingham and the Black Country has been mapped and all parts of the landscape have been assigned to one of three broad categories:

a) The **'Core Ecological Areas'** are the areas of the conurbation that are richest in wildlife. As might be expected these include the parts of our landscape least affected by urban development – such as Sutton Park and the countryside in the south of the borough of Dudley – but it also includes areas where wildlife has reclaimed sites that were once at the heart of the industrial Black Country. The Ecological Core Areas are shown as the red areas on the map below.

b) Joining the Core Areas and the wider landscape together are **'Ecological Linking Areas'**. These include the majority of our remaining 'natural' open spaces where many of the more frequently encountered species and habitats exist – often in very close proximity to dense human populations. Much of this part of the network is concentrated around key wildlife corridors including the extensive system of rivers, streams and canals. The Ecological Linking Areas are shown as the green areas on the map below.

c) Outside of the Core Ecological Areas and Ecological Linking Areas are the '**Ecological Opportunity Areas**'. These are the most intensively used parts of the landscape where the greenspace is dominated by formal parks, public open spaces, gardens, road verges and the most productive farmland.

Birmingham and the Black Country NIA Ecological Network Map:



Birmingham and the Black Country NIA ecological network map © EcoRecord, The Wildlife Trust for Birmingham and the Black Country and the Birmingham and Black Country Botanical Society 2017 (CC BY-NC 4.0)

This shows the site at Wynall Lane South to fall within a Core Area as defined above. It is part of the countryside to the south of Dudley referred to specifically in the text above.

4.1 c Summary of survey:

- **The current habitats present on site is likely to be adequate to maintain it's current status as a Site of Local Importance for Nature Conservation.**
- **The site lies entirely within a 'Core Ecological Area' as defined under the Birmingham and Black Country NIA strategy.**
- **There is evidence of protected species on-site (badgers) and it is possible that other protected species may be present (subject to the appropriate surveys).**

4.1 d Review of Policies in relation to SLINC sites

The following policies should be considered in relation to any proposed development of the site. In particular, the polices note that locally designated sites such as this, are protected from any development that would negatively impact on them and any development of these sites must demonstrate that the development is exceptional and strategically important enough to outweigh the nature conservation value of the site. Substantive development of any such site is unlikely to be off-set fully by on site mitigation and will require both on-site and off-site biodiversity off-setting.

In particular, the policy S21 states:

Exceptionally, where the strategic or community benefits of a development clearly outweigh the nature conservation importance of the area impacted upon, Dudley Council will ensure any damage or loss of nature conservation assets is fully offset by additional nature conservation improvement works. It will be expected that these will normally be accommodated on-site. However where there are exceptional circumstances, which prevent this, off-site works will be required instead.

Where consequential harm to biodiversity occurs as a result of a development, the level of improvement works needed to balance this will be assessed on a site by site basis, using DEFRA's Biodiversity Offsetting standards or relevant superseding government advice.

BCCS Adopted Policy (2011)

Policy ENV1 – Nature Conservation
Development within the Black Country will safeguard nature conservation, inside and outside its boundaries by ensuring that:

- Development is not permitted where it would harm internationally (Special Areas of Conservation), nationally (Sites of Special Scientific Interest and National Nature Reserves) or regionally (Local Nature Reserve and Sites of Importance for Nature Conservation) designated nature conservation sites;
- **Locally designated nature conservation sites (Sites of Local Importance for Nature Conservation), important habitats and geological features are protected from development proposals which could negatively impact upon them;**

- The movement of wildlife within the Black Country and its adjoining areas, through both linear habitats (e.g. wildlife corridors) and the wider urban matrix (e.g. stepping stone sites) is not impeded by development;
- Species which are legally protected, in decline, are rare within the Black Country or which are covered by national, regional or local Biodiversity Action Plans will not be harmed by development.

Adequate information must be submitted with planning applications for proposals which may affect any designated site or any important habitat, species or geological feature to ensure that the likely impacts of the proposal can be fully assessed. Without this there will be a presumption against granting permission.

Where, exceptionally, the strategic benefits of a development clearly outweigh the importance of a local nature conservation site, species, habitat or geological feature, damage must be minimised. Any remaining impacts, including any reduction in area, must be fully mitigated. Compensation will only be accepted in exceptional circumstances. A mitigation strategy must accompany relevant planning applications. Current designated nature conservation sites including Local Nature Reserves will be carried forward from existing Proposals Maps, subject to additions and changes arising from further studies. Local Authorities will look to designate additional nature conservation sites as necessary in conjunction with the Local Sites Partnership and consequently sites may receive new, or increased, protection over the Plan period.

All appropriate development should positively contribute to the natural environment of the Black Country by:

- Extending nature conservation sites;
- Improving wildlife movement; and/or
- Restoring or creating habitats / geological features which actively contribute to the implementation of Biodiversity Action Plans (BAPs) and/or Geodiversity Action Plans (GAPs) at a national, regional or local level.

Details of how improvements (which are appropriate to the location and scale) will contribute to the natural environment, and their ongoing management for the benefit of biodiversity and geodiversity will be expected to accompany planning applications. Local authorities will provide additional guidance on this in Local Development Documents.

Borough Development Strategy (2017)
Policy S19 - Dudley Borough's Green Network

The Green Network constitutes Dudley Borough's strategic Green Infrastructure, and comprises the following designations shown on the Policies Map (Appendix 1);

- Green Belt/Green Wedges
- Linear Open Space areas
- areas of designated nature conservation and geological value including Sites of Special Scientific Interest (SSSI), Local and National Nature Reserves (LNR/NNR), Sites of Importance for Nature Conservation (SINC) and Sites of Local Importance for Nature Conservation (SLINC)
- Accessible Natural Greenspace
- other formal and informal open space areas
- Wildlife Corridors
- existing or proposed linking areas of townscape or landscape
- canals and watercourses particularly the River Stour and its tributaries
- railway corridors.

While certain sections of the Green Network will, depending on their inherent value or potential, have a focus on a particular open space/nature conservation aspect, overall the network has a multi-functional role as;

- a wildlife corridor , to provide coherent ecological networks
- accommodating pedestrian and cycle paths, particularly in linking the urban area with the Green Belt and open countryside as well as linking towns and places of employment with residential communities
- providing opportunities for informal recreation
- helping to form a break between locally distinct areas and centres
- grazing land for horses and other livestock
- a means of maintaining the integrity of water courses across the Borough as well as enhancing the natural value and restoration of water courses including de-culverting where opportunities arise.

All development proposals except householder applications, falling within or adjoining, the Green Network shall provide a Green Network Impact Statement, as part of the Design and Access Statement, specifying how the proposal;

- complies with the aims and role of the Green Network
- enhances or adds value to the Green Network, particularly in providing Green infrastructure which would strengthen the network or greening sections of the network where such infrastructure is absent.

All development proposals, except householder applications, falling within or adjoining the Green Network, shall have a design and layout which would complement and enhance the intended functions of the network. This includes strengthening and supporting existing wildlife corridors through habitat creation and restoration and providing opportunities for outdoor recreation, such as

walking and cycling to promote healthy lifestyles and provide an alternative to help reduce congestion and improve air quality throughout the Borough.

The Green Network shall have a minimum width of 15 metres unless it is satisfactorily demonstrated to be unachievable. Any proposed development which has the effect of narrowing the corridor below this threshold will not normally be supported. Wherever possible, all sections of the Green Network shall seek to accommodate a footpath and cycleway which, when combined, shall be no less than 3.3 metres in width. The layout and route of such paths will be influenced by the nature of the network particularly so as to avoid any undesirable impact on habitats however the requirement will be to achieve a coherent, linked network of paths and cycleways.

Where existing townscape forms part of the Green Network and it is satisfactorily demonstrated that there are limited opportunities to provide a linking area of open space, Dudley Council will seek alternative means of providing continuous green linkages within developments, for example, through the provision of green roofs and green walls, street trees and boulevards. This is as long as such a provision would not prejudice the character and distinctiveness of the local environment.

Policy S21 - Nature Conservation Enhancement, Mitigation and Compensation

Dudley Council will safeguard and enhance designated nature conservation sites, habitats and features through the development process and in accordance with the Core Strategy, in particular Policy ENV1. Developments in
the Borough will be positively encouraged where they demonstrate improvements, expansion or increased links to nature conservation sites, evidenced from up-to-date ecological surveys. Any ecological surveys will need to be carried out in accordance with BS42020 "Biodiversity in Planning and Development" (or the most recent equivalent guidance / code of practice), and provide a locally specific interpretation if necessary.

Exceptionally, where the strategic or community benefits of a development clearly outweigh the nature conservation importance of the area impacted upon, Dudley Council will ensure any damage or loss of nature conservation assets is fully offset by additional nature conservation improvement works. It will be expected that these will normally be accommodated on-site. However where there are exceptional circumstances, which prevent this, off-site works will be required instead.

Where consequential harm to biodiversity occurs as a result of a development, the level of improvement works needed to balance this will be assessed on a site by site basis, using DEFRA's Biodiversity Offsetting standards or relevant superseding government advice.

4.2. Additional Ecological Surveys Recommended

To enable a fuller site assessment, which would be needed if development proposals were to be considered for this site, the following further ecological surveys are recommended, as follows:

- Bat activity surveys in accordance with BCT Good practice survey guidance, 2016.
- Pre-development badger survey and clearance of dense bramble scrub under ecological supervision for badger. A license in respect of development is a likely requirement.
- Hedgerow surveys
- Presence: absence Reptile survey.
- Great crested newt: Presence: absence survey
- Invertebrate surveys
- Nesting bird checks if any development or clearance is carried out within the bird nesting season.
- Construction Environmental Management Plan.
- An Ecological Enhancement Scheme.
- Management plan for retained or created habitats.
- BS5837 Pre-development tree survey

In addition, a series of precautions and mitigation measures will be required. This will be determined by the findings of the above surveys, and the character of any proposed development.

4.3. Minimising Ecological Impact (Only indicative at this stage)

This section states how the negative impacts of development can be addressed. There is likely to be the need for measures in respect of badgers, including possibly licenses in respect of development, with other measures determined by the findings of additional surveys undertaken.

4.3a. Protecting the Ecological Value of the Site

The trees and hedges on site are suitable for breeding birds and potentially will have a number of nests during the breeding season, all trees on the site should be retained, or suitable compensation planting carried out.

In addition, the trees on the site could contribute to commuter routes and foraging areas for local bat populations and these features should therefore be protected. If any trees or hedges are unavoidably lost to accommodate the scheme, suitable compensation planting should be carried out.The on-site lighting should be low lux, cowled (directed downwards to prevent light splay), and used on timers or motion sensors.

4.3b. Precautionary Measures during Development

The trees on site are suitable for breeding birds and potentially will have a number of nests during the breeding season. If small areas of vegetation are to be removed then it is recommended that all clearance should ideally take place outside of the bird breeding season. Bird breeding season is between mid March and mid August, although certain species can breed outside these months and if breeding birds are found then work should cease and the advice of an ecologist sought. If clearance is undertaken within the bird breeding season then all site features should preferably be checked immediately prior to clearance by a suitably qualified ecologist.

4.4 Opportunities for Biodiversity Mitigation

Following any built development there will be a requirement for substantial mitigation both on-site and off-site for loss of the site's ecological value through the planting and management of the Sustainable Urban Drainage Scheme (SuDS) and by a variety of landscaping and habitat creation/management measures designed to encourage wildlife into the site(s) , including native planting, bird and bat boxes on built structures. Species should be selected, that are both native and wildlife friendly, focusing on measures to encourage birds and foraging bats, wherever possible. See appendices 4 - 11 and appendix 13 the RSPB Guide to Enhancing Biodiversity in SuDS schemes for detailed information.

Managing SuDS for wildlife

This section begins with general recommendations and advice for creating SuDS rich wildlife benefits and is then followed by more specific advice relating to SuDS features themselves. It is important also to understand that, in most instances, SuDS will comprise both formally landscaped areas and more natural areas. Each of these will need to be designed and managed with people and wildlife as key objectives but different management activities may need to be applied to achieve these objectives in the two distinct areas. Furthermore, other SuDS functions of water quantity and quality management must also be born in mind.

Grassland

Benefits for wildlife

Grasslands are particularly important for wildlife. Structure is crucial and it is important to provide a variety of lengths throughout a site. Leaving some areas uncut over winter and other areas cut every two to three years further enhances structural diversity. Wildlife will utilise different lengths of grass in a variety of ways. For example, birds and mammals will forage in different lengths of grass for seeds and insects. Simply making a small increase to the minimum height of a short grass specification helps retain humidity and soil moisture which in turn benefits soil invertebrates.

Longer swards provide somewhere for the eggs, pupae or larvae of some insects to overwinter in the grass thatch. They will also be used by bumble bees to nest in. Beneath trees and adjacent to shrubs, invertebrates that feed in the trees and bushes can pupate in the grass to complete their life cycle.

Flying insects may shelter during rain or sudden changes in temperature and roost overnight. Reptiles and amphibians will search for insects in longer grass and use it as cover when moving between sites.

Sheltered sunny margins, beneath trees and shrubs and marginal wetland vegetation are ideal places to retain long grass. It helps increase humidity beneath bushes, buffering them from drying winds and improves conditions for wildlife. Beneath trees, soil moisture and humidity are retained and tree roots protected. Encouraging natural colonisation, seeding or planting flowers into grasslands provides nectar for a variety of insects.

General management recommendations

• Maintain short grass adjacent to paths and in the formal areas of the SuDS. • Within SuDS features (e.g. swales), longer grass slows water flow, traps silts and provides opportunities to improve wildlife value.

• Inform users (e.g. through interpretative signs) of the wildlife benefits of longer grass.

• Leave areas of long grass over winter and where possible, create areas of undisturbed grassland, cutting on a two or three year cycle, allowing plants to flower and seed.

• For longer swards, remove cuttings to prevent build up of dead plant material (thatch) and damage to the sward. Use cut grass to create habitat piles.

• Avoid wherever possible damaging ant nests when mowing. Ants are an important element of grassland communities. Creating and managing flower-rich grassland

• Some SuDS features require 100% vegetation cover before the system is commissioned e.g. swales. In this case, turfing will be essential. Flower-rich turfs are a good option, although cost may be restrictive. However, wildflower plugs may be added at a later date.

• Autumn sowing and rolling of the seed bed is likely to result in better germination. Spring sowing can sometimes be affected by drought and increased weed competition.

• Sowing rates are usually low, ranging from 2–4gm/m2 . Mix seed with sand to give an even spread.

• After cutting, and in the absence of grazing, it might aid seed germination to scarify the sward. Follow this with sowing additional flower species.

• Mowing frequently in the first year after sowing speeds establishment.

• Once established mowing should be timed accordingly to suit either a spring or summer flowering meadow. Avoid mowing before July where there may be ground nesting birds.

• For spring meadows, cut from late May or early June, after flowers have seeded and then as necessary throughout summer.

• For summer meadows, cut until late April then leave until August–September before cutting again. Depending on weather, one cut may be all that is necessary before leaving uncut through winter to the following spring.

• Timing of operations also has a bearing on fauna and flora. For example, cutting in July has negative impacts on grasshoppers, while a later cut might encourage knapweeds to dominate. Aim for conditions suitable to most species, particularly those of local and priority interest.

• Existing grassland maybe enhanced using any number of techniques, from hay strewing (spreading green hay from a suitable local donor site), plug planting using a reputable native plant supplier, to turf stripping small plots (where erosion is not a risk) and seeding over several years. Creating and managing wet grassland and rush management

• When creating new habitat, or enhancing existing areas, vary topography with drier hummocky areas for plants and animals that prefer free-draining sites and depressions that hold water for wetland wildlife. Shallow scrapes, linked with sinuous surface channels of varying width will increase opportunities for wildlife and slow water flows.

• Should rush cover exceed 30%. Mowing, grazing or a combination is often effective at bringing it under control.

• Cut rushes as low as possible (without scalping), with subsequent cuts after four to eight weeks. Following a cut, a short period of cattle grazing may be sufficient. The most effective treatment with minimal impact on non-target vegetation is to weed wipe fresh re-growth after topping.

Planting

• Choose species which when planted together maximise flowering and fruiting periods to benefit invertebrates and birds.

• Wildlife habitats and informally landscaped areas should be planted with native species of local provenance wherever possible.

• Encourage natural regeneration wherever possible

• Where appropriate, plant wet scrub and woodland

• For best results planting should be carried out between November and March.

• Density and pattern of planting varies according to circumstances. Irregular, wide spacing of no more than 2/m2 for shrubs and 10m spacing for trees creates a natural appearance, encourages natural infill and hence a diverse stand structure.

• In formal areas, mulching to suppress weed growth is important, as chemical control near water may pollute water and is likely to require consent from the Environment Agency.

• Once established, blocks of shrubs may be enhanced with appropriate herbaceous native plants; typically these are likely to be shade tolerant woodland species. They might be added either through direct seeding or plug planting at around 2/m2 .

• Spacing herbaceous plants at 3/m2 will allow plants sufficient room to develop naturally.

• Good preparation and after care are critical; consider creating a planting plan for the SuDS.

Specific Planting Recommendations for SuDS

Planting plans should ensure that plant choice and location:

• prevent erosion of soil surfaces

• trap silt and prevent re-suspension

• filter and treat pollution

• provide wildlife habitat

• provide visual and landscape benefits.

General requirements

• Filter strips and swales normally require turf to be laid over 100–150mm of topsoil, sometimes (but not always and especially not if the objective is to create a wildlife-rich wetland swale) with a gravel under-drain to ensure water soaks quickly into the ground or flows to a convenient detention area.

• Detention and retention basins are simple depressions in the ground with a grass surface but can feature extensive wet areas that can be planted with native wetland plants or where natural recolonisation can be encouraged. • Ponds are basins designed to fill naturally with water in clay soils or can be lined to ensure water stays in the pond most of the year. Design guidance

• All bare soil surfaces should be protected as soon as possible following construction to prevent erosion.

• All other surfaces that will receive direct flows e.g. filter strips, swales, inlets and outlets etc. should be stabilised immediately using turf or similar (e.g. a fully biodegradable coir blanket seeded with native flowers and grasses) prior to commissioning.

• All surfaces adjacent to infiltration structures e.g. filter drains, permeable surfaces or infiltration basins should be turfed.

• All planting must be accessible in order to be easily maintained.

• Wherever possible, all seed and plants to be supplied from an accredited source which specialises in British native plants and can guarantee provenance. However, it may be desirable in some cases to use non-native plants (see Appendix 2 for further advice). Planting of areas adjacent to SuDS features

• All planting that link SuDS features with existing, natural wetlands should use native species from an accredited source to prevent the spread of alien species and protect native habitat.

• Use normal amenity grade turf wherever possible to provide an immediate protected surface for drainage

• Alternatively, use wildflower-rich turf to perform the same function. This may be more expensive so to reduce costs, consider using a smaller amount but intersperse this with the amenity turf so that over time, wildflowers can colonise other areas.

• All planting should aim to create permanent ground cover with no bare soil or use of surface mulches.

• Plant with native plant plugs after permanent ground cover has been established in order to bring added plant and wildlife diversity (if using normal amenity turf).

• Maintenance should consist of grass cutting and shrub pruning with no weed treatment or bare soil management but keeping inlets and outlets clear at all times.

Tables of Suggested Plants and Plants to Avoid

Avoid aggressive plants, such as:	**DO NOT PLANT** any of the following invasive non-native plants
Branched bur-reed (*Sparganium erectum*)	Canadian pondweed (*Elodea canadensis*)
Bulrush (*Typha latifolia*)	Curly waterweed (*Lagarosiphon major*)
Greater pond sedge (*Carex riparia*)	Floating pennywort (*Hydrocotyle ranunculoides*) often supplied as Marsh pennywort (*Hydrocotyle vulgaris*)
Reed canary-grass (*Phalaris arundinacea*)	New Zealand swamp-stonecrop (*Crassula helmsii*)
Reed sweet-grass (*Glyceria maxima*)	Nuttall's pondweed (*Elodea nuttallii*)
Greater spearwort (*Ranunculus lingua*) – never introduce into small ponds	Parrot's-feather (*Myriophyllum aquaticum*)
	Water fern (*Azolla filiculoides*)

Erect marginal plants to consider	Low-growing marginal/aquatic plants to consider
Flowering-rush (*Butomus umbellatus*)	Amphibious bistort (*Persicaria amphibia*)
Gipsywort (*Lycopus europaeus*)	Brooklime (*Veronica beccabunga*)
Great water-dock (*Rumex hydrolapathum*)	Fleabane (*Pulicaria dysenterica*)
Hemp agrimony (*Eupatorium cannabinum*)	Floating sweet-grasses (*Glyceria* spp.)
Lesser reedmace/lesser bulrush (*Typha angustifolia*)	Marsh foxtail (*Alopecurus geniculatus*)
Marsh woundwort (*Stachys palustris*)	Marsh marigold (*Caltha palustris*)
Pendulous sedge (*Carex pendula*)	Meadowsweet (*Filipendula vulgaris*)
Purple loosestrife (*Lythrum salicaria*)	Water forget-me-not (*Myosotis scorpioides*)
Rush (*Juncus* spp.)	Water mint (*Mentha aquatica*)
Yellow iris (*Iris pseudacorus*)	Watercress (*Nasturtium officinale*)

The opportunities for further site enhancement lie in the following main areas:

1. Supplementary planting with native species to increase the area of woodland and hedgerows locally to improve connectivity for wildlife.
2. Introduction of bat and bird friendly native planting schemes, hibernacula, and wildflower hedgerow edge mix seeding.
3. Positive elements incorporated within or on the new buildings, retained trees or other built fabric, in particular bird and bat boxes should also be included.
4. Selection of wildlife-friendly shrub/planting species as part of the terrestrial landscaping scheme within the development. The specification should include 4 elements of

landscaping details selected from a palette of species beneficial to wildlife (further information can be found in Appendix 4):

5. Planting of native deciduous specimen tree species.
6. Wildflower seeding areas

5. CONCLUSION

This Phase 1 Ecology Report illustrates that the majority of the site is of 'moderate ecological value', there are existing features of ecological value within the development sites that have potential to be lost or negatively impacted upon by the development. The developing woodland and hedges are of moderate wildlife value.

To enable a fuller site assessment, which would be needed if development proposals were to be considered for this site, the following further ecological surveys are recommended, as follows:

- Bat activity surveys in accordance with BCT Good practice survey guidance, 2016.
- Pre-development badger survey and clearance of dense bramble scrub under ecological supervision for badger. A license in respect of development is a likely requirement.
- Hedgerow survey
- Presence: absence Reptile survey.
- Great crested newt: Presence: absence survey
- Invertebrate surveys
- Nesting bird checks if any development or clearance is carried out within the bird nesting season.
- Construction Environmental Management Plan.
- An Ecological Enhancement Scheme.
- Management plan for retained or created habitats.
- BS5837 Pre-development tree survey

The current preliminary ecological assessment concluded that:

- **The current habitats present on site are likely to be adequate to maintain it's current status as a Site of Local Importance for Nature Conservation.**
- **The site lies entirely within a 'Core Ecological Area' as defined under the Birmingham and Black Country NIA strategy.**

- **There is evidence of protected species on-site (badgers) and it is possible that other protected species may be present (subject to the appropriate surveys**

A range of locally adopted Planning policies should be considered in relation to any proposed development of the site. In particular, the polices note that locally designated sites such as this, are protected from any development that would negatively impact on them and any development of these sites must demonstrate that the development is exceptional and strategically important enough to outweigh the nature conservation value of the site. Substantive development of any such site is unlikely to be off-set fully by on site mitigation and will require both on-site and off-site biodiversity off-setting.

In particular, policy S21 of the Borough Development Strategy (2017) states:

Exceptionally, where the strategic or community benefits of a development clearly outweigh the nature conservation importance of the area impacted upon, Dudley Council will ensure any damage or loss of nature conservation assets is fully offset by additional nature conservation improvement works. It will be expected that these will normally be accommodated on-site. However where there are exceptional circumstances, which prevent this, off-site works will be required instead.

Date	**Prepared by**	**Checked and Verified by**
23rd October 2018	[redacted] Principal Ecologist	[redacted] Principal Ecologist

6. References

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Sustainable Drainage Systems - Maximising the Potential for people and wildlife. A guide for local authorities and developers. Graham, A., Day, J., Bray, B., and MacKenzie, S. for RSPB & WWT

Appendix 1a Satellite Images

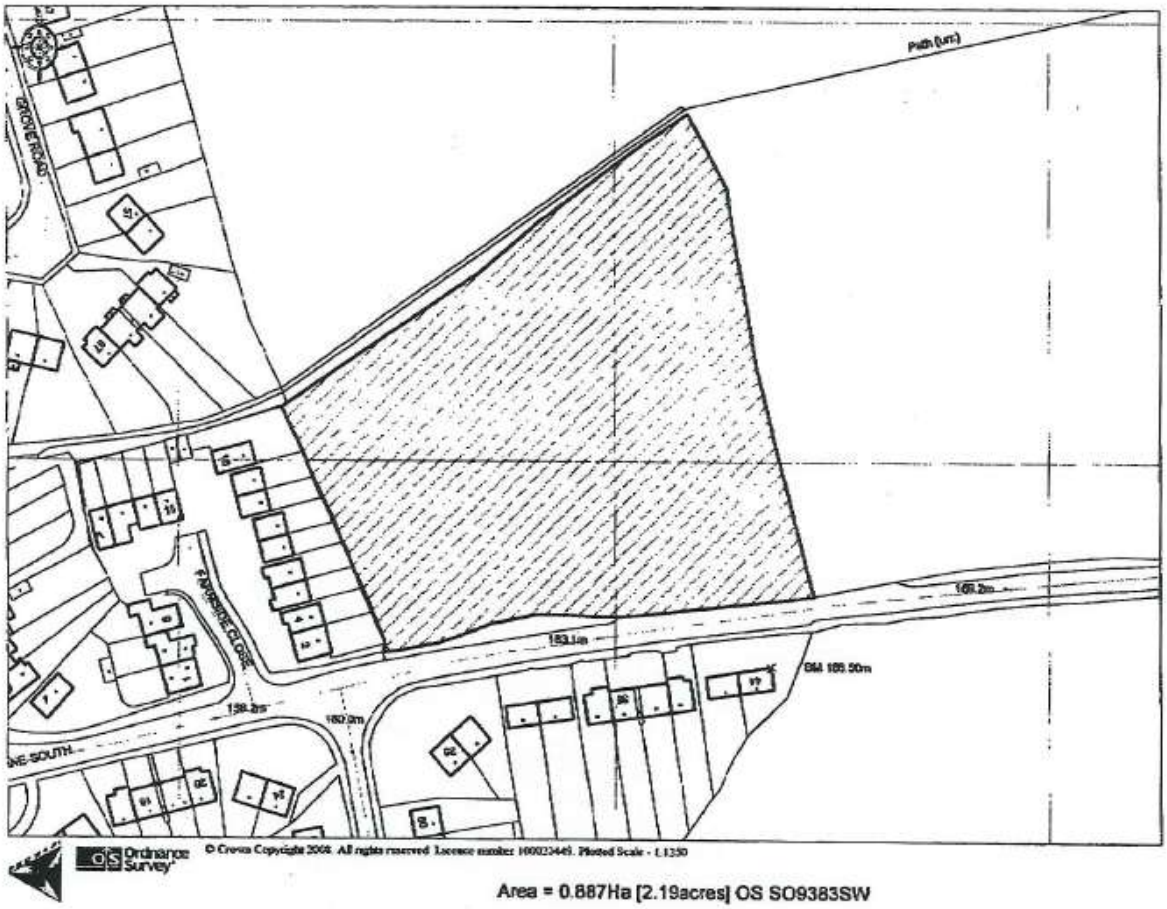
Map data 2018 © Google.

Appendix 1b Area context

Map data 2018 © Google

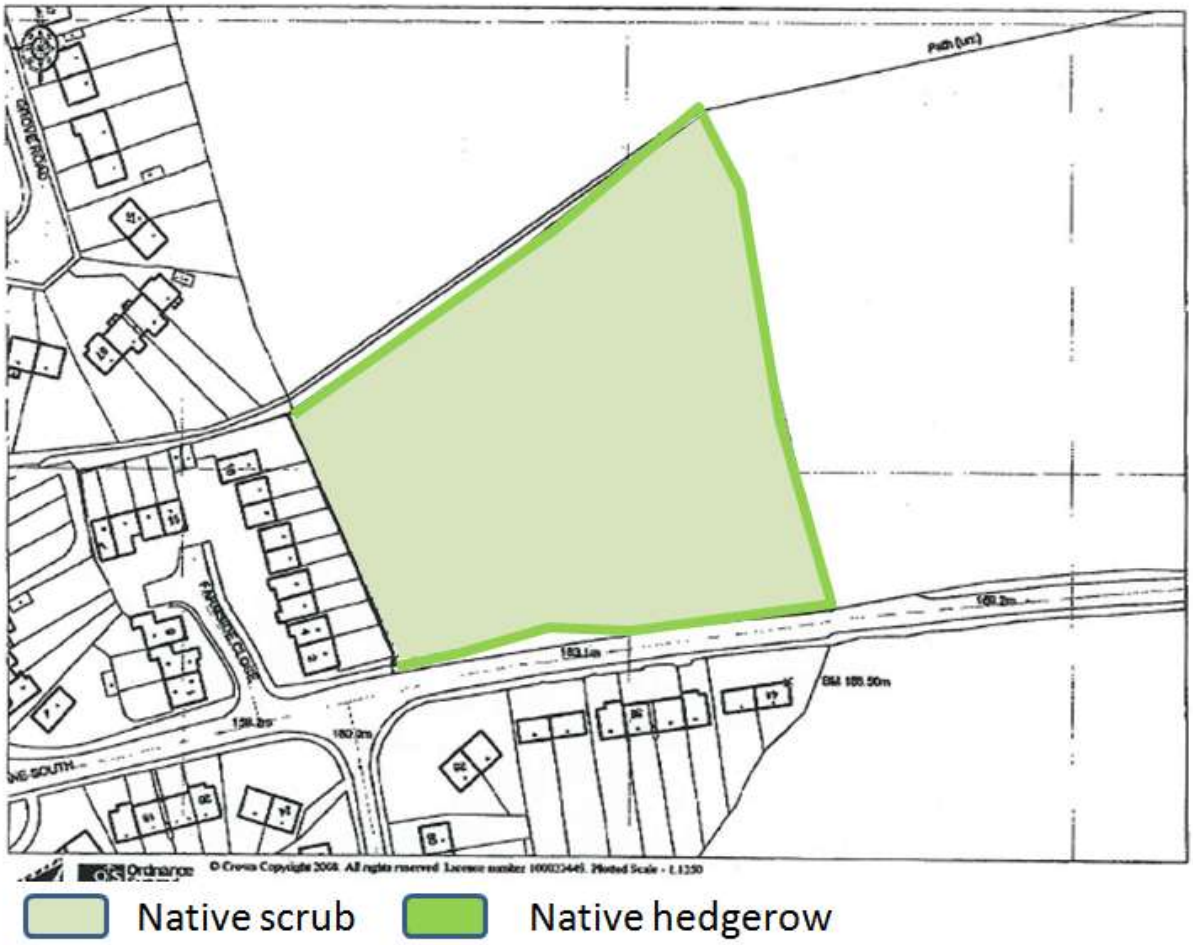
1c Site Plans

Land at Wynall Lane South, Foxcote



Area = 0.887Ha [2.19acres] OS SO9383SW

Appendix 1d Phase 1 Habitat Map



Appendix 2 Photographs

Badger sett entrances and overall site images


Google


Google


Google

APPENDIX 3: SPECIES LISTS

Species	**Common Name**
Trees & Scrub	
Quercus robor	English oak
Prunus spinosa	Blackthorn
Taxus baccatta	Yew
Fraxinus excelsior	Ash
Salix caprea	Goat willow
Rubus fruticosus agg	Bramble
Sambucus nigra	Elder
Ulmus sp.	Elm
Prunus laurocerastus	Laurel
Corylus avellana	Hazel
Prunus avium	Wild cherry
Acer pseudoplatanus	Sycamore
Crataegus monogyna	Hawthorn
Betula pendula	Silver birch
Ilex aquifolium	Holly
Corylus avellana	Hazel
Herbaceous Plants	
Rubus fruticosus	Bramble
Geranium dissectum	Cut leaved cranesbill
Heiracium sp.	Hawkweed
Lamium purpurea	Red deadnettle
Anthriscus sylvestris	Cow parsley
Cerastium fontanum	Common mouse-ear
Poa trivialis	Rough meadow-grass
Cirsium arvense	Creeping thistle
Cirsium vulgare	Spear thistle
Digitalis purpurea	Foxglove
Ribes sp.	Raspberry
Epilobium montanum	Broad-leaved willowherb
Dactylis glomerata	Cocksfoot

Urtica dioica	Stinging nettle
Epilobium hirsutum	Greater willowherb
Calystegia sepia	Hedge bindweed
Symphiocarpus sp.	Snowberry
Heracleum sphondylium	Hogweed
Galium aparine	Cleavers
Geranium molle	Dove's foot crane's-bill
Hedera helix	Ivy
Hypochoeris radicata	Common catsear
Holcus mollis	Creeping soft-grass
Lolium perenne	Perennial rye-grass
Plantago lanceolata	Ribwort plantain
Poa trivialis	Rough meadow grass
Ranunculus repens	Creeping buttercup
Artemesia vulgaris	Mugwort
Rosa canina	Dog rose
Rumex obtusifolius	Broad-leaved dock
Senecio vulgaris	Groundsel
Dryopteris dilatata	Broad buckler fern
Vicia sativa	Common vetch
Lamium album	White deadnettle
Taraxacum officinalis agg	Dandelion
Urtica dioica	Common nettle
Geranium robertianum	Herb robert
Alliaria petiolata	Hedge garlic
Chenopodium album	Fat hen
Pteridium sp.	Bracken
Chamerion angustifolium	Rosebay willow herb
Senecio jacobaea	Common ragwort
Galium aparine	Cleavers
Rubus occidentalis	Raspberry
Lamium album	White dead nettle
Tripleurospermum inodorum	Scentless mayweed

Lapsana communis	Nipplewort
Conopodium majus	Pignut
Heracleum sphondylium	Hogweed
Medicago lupulina	Black medic
Cornus sanguinea	Dogwood

APPENDIX 4: EXAMPLES OF SWIFT AND HOUSE SPARROW NEST BOXES

Schwegler No 17 Triple Cavity Swift Box

This nest box is designed by Schwegler for swifts and constructed from plant-fibre based material to mimic their natural nest sites. The No 17 Triple Cavity can accommodate 3 pairs of swifts, assisting the rapid formation of colonies. It should be sited 6-7m above the ground, near the roof of a building.

Positioning: Under or close to roofs at least 5m from the ground. Ensure unobstructed access for birds

Suitable for: Common swifts

Material: Vegetable fibre material (asbestos-free)

Height: 150mm

Width: 900mm

Depth: 150mm

Weight: 7kg

Schwegler 1SP Sparrow Terrace

Sparrows are gregarious and prefer to nest close to each other, so this triple-nest box provides room for three families under one roof. It's made from long-lasting, breathable Woodcrete to provide the optimum environment for sparrows to nest and rear their chicks.

Positioning: On buildings of all kinds in typical habitats including industrial buildings and barns at a height of at least 2m (eg. under eaves)

Suitable for: House and tree sparrows and individual redstarts

Material: WoodcretePLUS

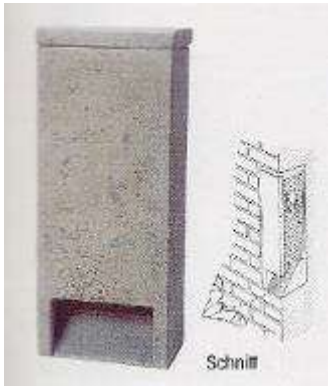
Height: 240mm

Width: 430mm

Depth: 220mm

Weight: 15kg

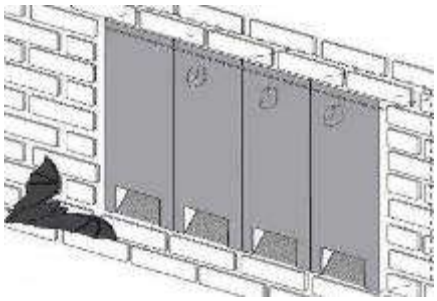
APPENDIX 4: EXAMPLES OF BAT BOXES AND BRICKS SUITABLE FOR BUILDINGS



Schwegler 1FR can be installed within brick masonry just leaving the entrance and can be rendered over.

Ibstock Enclosed Bat Box B is designed specifically for the pipistrelle bat.

Schwegler WI integral Summer & Winter Bat Box.



Schwegler 2FR Bat Tube is the same design as the 1FR but with holes in the sides. Multiple tubes to be placed next to each other to form a much larger roost.

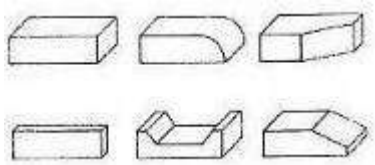
Schwegler 27 wall can be installed within brick masonry. It can be rendered over.

Schwegler 1FQ wall-mounted bat box.

Schwegler 1FE Bat Access Panel can be surface-mounted or integrated. The open back enables bats access through exterior walls.

Ibstock Bat Box with Engraved Motif C is designed specifically for the pipistrelle bat and is available in all brick colours.

Ibstock Free Access Bat Box allows bats to access the cavity wall of the building.



Modified bricks for creating bat access points. A standard brick is shown top left. Purpose made bat bricks can also be used.

Norfolk Bat Brick allows bats to access the cavity wall of the building. The slits are the perfect size for Natterer's bat, Daubenton's bat, Brandt's bat and Brown long-eared.

Marshall's Bat Access Brick *(Also available in stone)* allows bats access into the cavity wall of the building.

APPENDIX 5: INSECT BOXES

A variety of insect boxes is recommended to encourage a diversity of species.

Wooden Insect House

A general insect habitat for beneficial insects in summer and, later in the year, over wintering ladybirds and lacewings. Locate in a sheltered place near nectar or pollen plants or by a pond.

Durable and strong construction in acacia, oak or larch with no maintenance necessary.
D
imensions: 22 × 13.5 × 13.5cm.

Woodcrete Insect House

An insect nest made from long-lasting, insulating, woodcrete, with holes of different sizes providing homes for a variety of beneficial insects such as bees and solitary wasps.

Dimensions: 14 × 8 × 26cm; Weight: 3.65kg

Insect House with Inspection Tubes

This nesting and hibernation box for insects has a woodcrete exterior with a wooden front panel which can be removed for observation. Through the transparent tubes you can see the usually hidden lifecycle of many solitary types of bees and hymenoptera including egg-laying, development of larvae and sealing of brood chambers.

Typical inhabitants are wild bees and thread-waisted wasps. All the species attracted to this box are harmless non-aggressive pollinating insects.

Dimensions: 33 × 21 × 51 cm; Weight: 7.1kg.

APPENDIX 6: BRITISH NATIVE TREES - HABITATS AND GROWING CONDITIONS

British Native Trees - Habitats and Growing conditions.

Species	Average mature / ultimate height			Growth rate			Soil/ground conditions					Tolerant of sites that are				Valuable for	
	0.5-5m	6m-15m	16m+	Fast	Medium	Slow	Wet ground	Light sandy soils	Heavy soils	acid	alkaline	Shaded	Polluted	Coastal	Exposed	Birds	Insects
Alder		•		•			■		•		•	•	•		•		•
Ash			•		•		▲	•	•		•	•	•	•	•		
Aspen		•		•					•	•	•		•	•	•		•
Beech			•			•		•			•	•					•
Birch, Downy		•		•			▲			•			•		•		•
Birch, Silver		•		•				•		•			•		•		•
Blackthorn	•			•				•	•	•	•			•	•	•	•
Broom	•				•			•		•	•	•	•	•			•
Buckthorn, Alder	•					•	▲			•							
Cherry, Wild		•			•			•	•		•		•				
Cherry, Bird		•			•			•	•	•		•				•	•
Crabapple		•				•		•	•	•	•	•				•	•
Elder		•		•				•	•	•	•	•	•	•	•		•
Elm, Wych		•			•				•		•	•	•	•	•		•
Gorse	•				•			•		•	•					•	•
Hawthorn	•				•			•	•	•	•		•	•	•	•	•
Hazel		•		•					•		•	•					•
Holly		•				•		•	•	•	•	•	•	•	•	•	
Lime, small-leaved			•		•				•		•	•					•
Maple, Field		•			•				•		•	•	•				
Oak, Pedunculate			•			•			•		•				•	•	•
Oak, Sessile			•			•	▲	•	•	•		•			•	•	•
Pine, Scots			•		•			•		•					•		•
Poplar, Black			•	•			▲	•	•		•						•
Rose, Dog	•				•			•	•		•	•	•		•		•
Rose, Guelder	•				•		▲		•		•	•					•
Rowan		•		•				•		•			•	•	•	•	
Spindle	•				•				•		•	•					
Whitebeam, Common		•			•			•	•		•						•
Wild Service	•					•			•		•	•		•		•	
Willow, Crack		•		•			■				•		•	•	•	•	•
Willow, Goat		•		•	•		■		•		•	•	•	•	•	•	•
Willow, White			•	•			■				•		•	•	•	•	•
Yew		•				•		•			•	•			•	•	

■ Only species to survive waterlogged sites with anaerobic conditions.
▲ Will tolerate wet ground if there is some seasonality of "flushing (water movement) within the soil.

APPENDIX 7: NON-NATIVE PLANTS TO ATTRACT WILDLIFE

Buddleja X weyeriana cultivars

You can plant the orange-flowered B. X weyeriana hybrids with a clear conscience as they don't appear to produce viable seed, they also attract a broad spectrum of insects including both butterflies and bees, and they flower late into the season when nectar is scarce. The beautiful B. x fallowiana 'Lochinch' with silver leaves is attractive to butterflies and is also said not to produce seeds. The orange ball Buddleja (B. globosa) from South America seems to attract bees rather than butterflies.

Bupleurum fruticosum ('Shrubby Hare's Ear')

A shrubby evergreen umbellifer from Southern Europe, where it is often cultivated. It has leathery aromatic foliage and umbels of yellowish flowers, a bit like those of Fennel, that are very attractive to hoverflies and other small insects. Well worth growing for this reason.

Ceanothus X 'Gloire de Versailles'

Ceanothus come from the Western United States. Most Ceanothus have bunches of very small flowers that don't seem very attractive to insects. 'Gloire de Versailles' however is a hybrid with loose bunches of pale blue tubular flowers that are very attractive to butterflies and bees.

Caryopteris X clandonensis 'Kew Blue'

A deciduous shrub from China for a sunny position, has small tubular blue flowers attractive to insects.

Clethra alnifolia ('Sweet Pepper Bush')

A deciduous shrub from the Eastern united States that likes damp, acid or woodland soil.
Has spikes of small scented white flowers attractive to moths and butterflies.

Hebe X 'Great Orme' and H. X 'Midsummer Beauty'

Hebes are close relatives of the herbaceous genus Veronica, and come from New Zealand. Some are much more attractive to insects than others. 'Great Orme' is a medium-sized hybrid with pale pink flowers that are attractive to butterflies. It is a distinctive cultivar and available true to name in the nursery trade.

'Midsummer Beauty' seems to be more of a generic name for a series of large shrubs with
blue or grey-blue flowers in long spikes, attractive to both bees and butterflies. There are a number of other blue and white flowered Hebes that seem very popular with bumblebees.

Myrtus communis ('European Myrtle')

An attractive evergreen shrub from the South of France and Spain with small evergreen
aromatic leaves. It has been grown in our gardens for centuries, but is susceptible to hard
frost and prefers a site against a warm sunny wall. Fluffy white flowers in early summer are bumblebees' heaven. Purplish berries follow later which are stripped by blackbirds in
January.

Amelanchier species ('Shad Bush')

Shrubs with white cherry-like blossoms early in the year, followed by blackish berries in late summer. Valuable for the berries as a source of food for berry-eating birds when most other berries are not yet ripe.

Erica terminalis ('Corsican Heath')

A shrubby heather-like plant popular with bumblebees. The Cornish Heath, Erica vagans, from the Atlantic fringes of Europe is also a good bee plant. Erica manipuliflora, from
Southern Europe, and its hybrid Erica X griffithii have fragrant flowers that attract butterflies.

Eupatorium ligustrinum

A late-flowering evergreen bush that looks very like a privet, but has bunches of white fluffy flowers in September and October. These flowers seem very attractive to range of insects, especially hoverflies.

Ribes sanguineum (Flowering Currant)

It is a very good early flower for bumblebees, as indeed are the flowers of the closely related blackcurrants and gooseberries.

APPENDIX 8: PLANTS GOOD FOR MOTHS, WITH SPECIES OF MOTH THEY ENCOURAGE BESIDE

Bird's Foot Trefoil (lotus corniculatus) - *Burnet, Belted Beauty, Chalk Carpet, Latticed Heather*
Bladder Campion (silene vulgaris)- *Campion, Marbled Coronet, Nettle Pug, Marbled Clover, Dark Brocade, Sandy Carpet*
Borage (borago officinalis) - *Crimson Speckled*
Chives (allium schoenprasum)
Wild Clary (salvia horminoides) - *Twin-spot Carpet*
Biting Stonecrop (sedum acre) - *Yellow Ringed Carpet, Northern Rustic*
Cowslip (primula veris) - *Plain Clary, Northern Rustic*
Daisy - *Bordered Straw*
Dropwort (filipendula hexapetala) - *Satyr Pug*
Evening Primrose (oenothera biennis) - *Elephant Hawk*
Field Scabious (kanutia arvensis) - *Marsh Fritillary, Narrow Bordered Bee Hawk, Lime Speck Pug, Shaded Pug*
Foxglove (digitalis purpurea) - *Lesser Yellow Underwing, Foxglove Pug*
Golden Rod (solidago) - *Lime Speck Pug, Bleached Pug, Golden Rod, Wormwood Pug, V Pug*
Greater Stitchwort (stellaria holostea) - *Dart, Yellow Underwing, Marsh Pug, Plain Clary*
Hedge Bedstraw (gallium mollugo) - *Ruddy Carpet, Royal Mantle, Common Carpet, Wood Carpet, Water Carpet, Beech Green Carpet, Mottled Grey, Green Carpet*
Hedge Woundwort (stachys sylvatica) - *Rosy Rustic, Plain Golden Y, Sub-angled Wave*
Hemp Agrimony (eupatorium cannabinum) - *Wormwood Pug, V Pug, Lime Speck Pug, Marsh Pug, Gem, Scarce Burnished*
Herb Bennet (geum urbanum) - *Riband Wave*
Herb Robert (geranium robertianum) - *Barred Carpet*
Hollyhock (althaea rosea) - *Mallow*
Kidney Vetch (anthyllis vulneraria) - *6-belted Clearwing*
Lady's Bedstraw (gallium verum) - *Hummingbird Hawk, Small Elephant Hawk, Gallium Carpet, Plain Wave, Riband Wave, Bedstraw Hawk, Archer's Dart, Red Chestnut, Ruddy Carpet, Royal Mantle, Common Carpet, Water Carpet, Beech Green Carpet, Red Twin Spot Carpet, Wood Carpet, Mottled Grey, Green Carpet*
Lady's Mantle (alchemilla mollis) - *Red Carpet*
Lesser Knapweed (centaurea nigra) - *Silver Y, Lime Speck Pug, Satyr Pug*
Lesser Meadow Rue - *Marsh Carpet*
Maiden Pink (dianthus deltoides) - *Marbled Coronet*
Marjoram (majorana orignaum) - *Sub-angled Wave, Lace Border*
Marshmallow (althea officinalis) - *Marshmallow*
Meadow Clary (salvia pratensis) - *Brown Spot Pinion, Hebrew Character, Powder4ed Quaker, Emperor*
Meadowsweet (filipendula ulmaria)
Mullein - *Mullein, Striped Lychnis*
Navelwort (umbilicus rupestris) - *Weaver's Wave*
Pink - *Hawk*
Primrose (primula vulgaris) - *Pearl Bordered Yellow Underwing, Double Square Spot, Green Arches, Triple Spotted Clary, Ingrained Clary, Silver Ground Carpet*
Purple Loosestrife (lythrum salicaria) - *Emperor, Small Elephant Hawk, Powdered Quake*
Ragged Robin (lychnis flos cuculi) - *Campion, Lychnis, Twin-spot Carpet, Marbled Clover*
Red Campion (melandrium rubrum) - *Rivulet, Campion, Lychnis, Twin-spot Carpet, Sandy Carpet, Marbled Clover*
Red Clover (trifolium pratense) - *Latticed Heath, Chalk Carpet, Belted Beauty, Mother Skipton, Shaded Broad Bar, Narrow-bordered 5-spot Burnet*
Red Valerian (centranthus ruber) - *Elephant Hawk*
Rock Rose (helianthemum mummularium) - *Amulet, Cistus Forester, Silky Wave, Ashworth's Rustic, Argus, Wood Tiger, Northern Brown*
Rosebay Willowherb - *Twin-spot Carpet, Small Phoenix, White Banded Carpet*
Small Scabious (scabiosa columbaria) - *Lime Speck Pug, Shaded Pug*
Soapwort (saponaria officinalis) - *Marbled Clover*
St John's Wort - *Treble Bar*
Sweet Rocket (hesperis matronalis)

Sweet Violet (viola odorata) - *Broad Bordered Yellow Underwing, Lesser Broad Bordered Yellow Underwing*
Tansy (tanacetum vulgare) - *Essex Emerald*
Thrift (armeria maritima) - *Amulet, Feathered Ranunculus, Thrift Clearwing, Black Banded*
Thyme - *Thyme Pug, Satyr Pug, Lace Border*
Toadflax (linaria vulgaris) - *Toadflax Pug, Marbled Clover*
Valerian (valeriana officinalis) - *Valerian Pug, Lesser Cream Wave*
Viper's Bugloss (echium vulgare)
White Campion (silene latifolia alba) - *Marbled Coronet, Marbled Clover, Sandy Carpet*
Wild Basil (clinopodium vulgare)
Wild Clematis (clematis vitalnba) - *Lime Speck Pug, Haworth's Pug, Small Emerald, The Fern, Pretty Chalk Carpet, Least Carpet, Pug, Chalk Carpet, Small Waved Umber*
White Clover (trifolium repens) - *Cloudy Wing Skipper, Orange, Clouded Sulphur*
Wild Pansy (viola tricolor) - *Pluvia*
Wild Strawberry (fragaria vesca) - *Amulet, Yellow Shell, Beautiful Carpet, Dark Marbled Carpet*
Wild Wallflower - *Flame Carpet*
Wormwood (artemesia absinthium) - *Wormwood Pug*
Yarrow (achillea millefolium) - *Essex Emerald, Lime Speck Pug, Straw Belle, Wormwood Pug, Ruby Tiger, Yarrow Pug, V Pug, Sussex Emerald, Grey Pug, Tawny Speckled Pug, Common Pug, Mullein Wave*
Yellow Flag Iris (iris pseudacorus) - *Belted Beauty, Water Ermine*
Barberry - *Scarce Tissue, Wheat*
Blackthorn/Sloe - *March, Common Emerald, Little Emerald, Mottled Pug, Feathered Thorn, Orange, Scalloped Hazel, Scalloped Oak, August Thorn, Brimstone, Early Thorn, Pale Brindled Beauty, Blue Bordered Carpet, Broken Barred Carpet, November, Pale November, Winter, Sloe Pug, Green Pug, Sharp Angled Peacock, The Magpie*
Broom - *Grass Emerald, The Streak, Broom-tip, Lead Belle, Spanish Carpet, Frosted Yellow*
Dog Rose - *V Pug, Little Thorn, Shoulder Stripe, Barred Yellow, Streamer*
Hawthorn - *March, Common Emerald, Little Emerald, November, Pale November, Winter, Mottled Pug, Pinion Spotted Pug, Common Pug, Grey Pug, Peppered, Brindled Beauty, Pale Brindled Beauty, Feathered Thorn, Scalloped Hazel, The Magpie, Scalloped Oak, Large Thorn, Early Thorn, Oak Tree Pug, Broken Barred Carpet*
Hazel - *Oak Beauty, Small White Wave, The Magpie, Clouded Border, Barred Umber, Winter, Pale November*
Oak - *Brindled Pug, Oak Tree Pug, Spring Usher, Peppered, Oak Beauty, Brindled Beauty, Pale Brindled Beauty, Small Brindled Beauty, Feathered Thorn, Orange, Lunar Thorn, Purple Thorn, Scalloped Hazel, Scalloped Oak, Scorched Wing, Large Thorn, August Thorn, November, September Thorn, Pale November, Winter, March, Blotched Emerald, Common Emerald, Little Emerald, False Mocha, Maiden's Blush, Marbled ug, Red-green Carpet, Broken Barred Carpet*
Rowan - *Orange Underwing, Welsh Wave, Mottled Pug, Red-green Carpet*
Wild Privet - *Lilac Beauty, Barred Toothed Striped, Yellow Barred Brindle, Small Bloodvein*

APPENDIX 9: PLANTS AND HABITATS TO ATTRACT BATS

Flower Borders and Lawns

Larvae and adults of many insects will be catered for by introducing a wide range of food, in the form of nectar, seeds and fruit as well as vegetation.

- Grow night scented flowers. These attract moths and other night flying insects of particular importance to bats.
- Plant herbs and old fashioned cottage-garden annuals attractive to insects.
- Leave part of your lawn un-mown from about mid May to encourage insect larvae which feed on grass. Allow to seed before cutting, and rake up the hay afterwards.
- Sow wild flower seed collections in your borders.

Trees and Shrubs

At woodland edges space and sunshine combine with the trees to give shelter and warmth, and insects will concentrate there. So even in the smallest garden try to have at least one tree or shrub. Native trees are more attractive to insects than foreign species.

If space is limited, silver birch and goat willow are quick growing and are host to many insect visitors. With a little more space, try to make a bank of vegetation to give your garden a woodland edge structure.

Shelter Belts

Rows of bushes or trees can be created or improved, encouraging concentrations of insects and providing a feeding area for bats,

- Plant up gaps in natural hedges,
- A row of fast-growing cypress can be valuable.
- Train climbers using battens against a wall or fence, to provide possible roosting sites.
- Create a sheltered corner by using any combination of walls, fences, hedges or woodland edge at two angles.

Scented herbs

Chives, Borage, Lemon balm, Marjoram, Mint - many varieties Night scented flowers for the border (in approximate order of flowering)

Bedding Plants

Nottingham catchfly	*Silene nutans*	
Night-scented catchfly	*S. noctiflora*	
Bladder campion	*S, vulgaris*	
Night-scented stock	*Matthiola bicornis*	
Sweet rocket	*Hesperis natronalis*	
Evening primrose	*Oenothera biennis*	
Tobacco plant	*Nicotiana affinis*	
Cherry pie	*Heliotropun x hybndurr*	
Soapwort	*Saponaria officinalis*	

Climbers

European honeysuckle	*Lonicera caprifolium*	July-November
Italian honeysuckle	*L. etrusca superba*	July-August
Japanese honeysuckle	*L. japonica halliana*	August-October
Honeysuckle (native)	*L. periclymenum...*	July-August
White jasmine	*Jasminium otiicinale*	

Dogrose	*Rosa canina*
Sweetbriar	*R. rubiginosa*
Fieldrose	*R. arvensis*
Ivy	*Hedera helix*
Bramble - many species	

Large trees, small trees and shrubs

Oak	*Quercus robur & Q. petrea*
Ash	*Fraxinus excelsior*
Silver birch	*Betula pendula*
Field maple	*Acer campestre*
Hawthorn	*Crataegus monogyna*
Alder	*Ainus glutinosa*
Goat willow	*Salix caprea*
Guelder rose	*Viburnum opulus*
Hazel	*Coryllus avellana*
Blackthorn	*Prunus spinosa*
Elder	*Sambucus nigra*
Buddleia davidii	

Rock plants for walls

Ivy-leaved toadflax	*Cymbana muralis*
Wall pennywort	*Umbilicus rupestris*
Stonecrop	*Sedum acre bertianum*

APPENDIX 10: PLANTS TO FEED BIRDS

Many shrubs, climbers, trees, garden and 'wild' plants provide food, directly or indirectly, through berries, seeds or the insects they attract.
Berry or fruit bearing trees and shrubs will attract members of the Thrush family, Blackbird, Fieldfare, Mistle and song Thrush, Redwing and Robin. Also Starlings and, in some winters, Waxwing and even some Warblers, e.g., Blackcaps who eat berries in the early autumn before they migrate. Unless mentioned, the berries attract all the above birds plus others as specified.
Shrubs with berries.

- Aronia arbutifolia (Red Chokeberry) : bright red fruits
- Berberis: most forms have black/purple berries, especially loved by Blackbirds.
- Callicarpa 'Profusion': bright violet coloured berries.
- Cornus (Dogwood): blue tinted white berries (not C.Mas).
- Cotoneaster : prolific red, orange or yellow berries - birds often choose red first, through orange to yellow last. (Note berries are poisonous to humans).
- Euonymous europaeus (spindleberry: large bright red fruits which open to emit orange red seeds.(Note berries are poisonous to humans).
- Ilex (Holy): red, orange or yellow berries - red berries preferred (need partner to fruit).(Note berries are poisonous to humans).
- Mahonia: decorative black berries.
- Rosa rugosa : large red hips, particularly attractive to Greenfinches which pick out the seeds.
- Sambucus (Elder): red or black berries - over 32 species reported eating them, especially Blackcap and, occasionally, Collar Doves.
- Viburnum opulus (Guelder Rose) : translucent berries
- Viscum album (Mistletoe): familiar white globular berries of this parasite that grows in trees, especially apple, are a good food source for Blackbirds.

Climbers With Berries.

- Chaenomeles (Flowering Quince/Cydonia): Autumn Quinces.
- Hedera (Ivy) : shiny black berries
- Lonicera (Honeysuckle: red or black berries attract Thrushes plus Bullfinches and Marsh and Willow Tits. (Note berries are poisonous to humans).
- Pyracantha (Firethorn) :red, orange or yellow berries - choose red for the birds to eat before Christmas usually with orange or yellow to follow in a hard winter.
- Clematis vitalba (Old Man's Beard): seed heads are enjoyed by many birds.

Trees with Berries or Fruits.

- Crataegus monogyna (Hawthorn : red berries.
- Malus (Crab Apple: red fruited varieties are best for birds.
- Prunus (Cherries): fruits quickly picked off.
- Sorbus aucuparia (Mountain Ash/Rowan) :red, orange or pink flushed white berries. The darker the fruits the more attractive they are to birds. Occasionally bring Spotted Flycatchers to the garden.
- Taxus (Yew): sparse red berries attract a wide range of birds. Attractive also to Badgers.(Note berries are poisonous to humans).

Trees with Seed Cones.

- Alnus glutinosa (Alder), and Betula (Birch): seeds from cones enjoyed by Goldfinches, Greenfinches, Redpolls, Siskins and Tits.
- Pinus sylvestris (Scots pine) : pine cones from which Crossbills and Great Spotted Woodpeckers prise seed.

Trees with Blossom.

- Although not always welcome, Bullfinches strip the buds of fruit trees in late winter and early spring.

Garden Plants.

- Crocus: yellow and orange flowers are attractive to Sparrows because they contain yellow pigment carotene to brighten up their plumage for the breeding season.
- Echinops ritro (Globe Thistle: seed heads are eaten by Goldfinches and flower heads attract insects.

- Helianthus (Sunflower: seed heads are eaten by Greenfinches. The nectar attracts a wide range of insects.
- Lavandula (Lavender): flowers going to seed are attractive to Goldfinches.
- Primula (Polyanthus/Primrose): yellow and orange flowers are attractive to Sparrows.

Wild Plants.

You can provide a haven for wild plants to exist in their own right recreating a wild meadow to attract insects which, in turn, attract birds and other wildlife. We sell nursery grown 'wild' plants throughout the year so that you can go wild in a corner of your garden.

- Betony.
- Bird's Foot Trefoil.
- Common Poppy - seeds are favourite food of Finches.
- Field Scabious.
- Greater Knapweed.
- Meadow Cranesbill.
- Musk Mallow.
- Ox Eye Daisy.
- Oxlip.
- Primrose.
- Rough Hawkbit.
- Self Heal.
- Teasel - seed heads are a favourite food of Goldfinches.
- Wild Strawberry

The Lawn.

This is one of the principal sources of food for birds who enjoy feeding on insects including-:Ants eaten by Green Woodpeckers; Leatherjackets by Starlings; Snails by Song thrushes; Slugs by Toads and Worms by Blackbirds, Robins and Thrushes.

Cover and Protection.

By surrounding your garden by thick and often prickly hedging and dotting suitable shrubs around, you can provide safe nesting havens that are protected from marauding cats and even the unwelcome attention of unfriendly humans.

The most successful shrubs and trees for this purpose include:-

- Conifers especially chamaecyparis, Taxus (Yew) and Thuja Placata.
- Crataegus.
- Eleagnus.
- Hedera (Ivy) up a tree.
- Ligustrum (Privet) especially for Blackbirds.
- Lonicera (Honeysuckle).
- Pittosporum.
- Salix caprea (Weeping Kilmarnock Willow).
- Viburnum.

APPENDIX 11: NATIVE PLANTS FOR BEES

Native plants should be your first choice to help our native bees. Listed below are some plants that are good sources of nectar or pollen for bees. Both the common and Latin names of the plant genus are given. This list is not exhaustive; there are many other plants good for bees. Individual species have not been included because we hope the list will be useful across the U.S. Not all of these genera will have species in your local area, but they do represent plants that will grow in a variety of environments. Use a wildflower guide or contact local nurseries to find your local species.

- Aster *Aster*
- Black-eyed Susan *Rudbeckia*
- Caltrop *Kallstroemia*
- Creosote bush *Larrea*
- Currant *Ribes*
- Elder *Sambucus*
- Goldenrod *Solidago*
- Huckleberry *Vaccinium*
- Joe-pye weed *Eupatorium*
- Lupine *Lupinus*
- Oregon grape *Berberis*
- Penstemon *Penstemon*
- Purple coneflower *Echinacea*
- Rabbit-brush *Chrysothamnus*
- Rhododendron *Rhododendron*
- Sage *Salvia*
- Scorpion-weed *Phacelia*
- Snowberry *Symphoricarpos*
- Stonecrop *Sedum*
- Sunflower *Helianthus*
- Wild buckwheat *Eriogonum*
- Wild-lilac *Ceanothus*
- Willow *Salix*

Garden plants for bees

Flower beds in gardens, business campuses, and parks are great places to have bee-friendly plants. Native plants will create a beautiful garden but some people prefer "garden" plants. Many garden plants are varieties of native plants, so this list only includes plants from other countries--"exotic" plants--and should be used as a supplement to the native plant list. As with the native plants, this list is not exhaustive.

- Basil *Ocimum*
- Cotoneaster *Cotoneaster*
- English lavender *Lavandula*
- Giant hyssop *Agastache*
- Globe thistle *Echinops*
- Hyssop *Hyssopus*
- Marjoram *Origanum*
- Rosemary *Rosmarinus*
- Wallflower *Erysimum*
- Zinnia *Zinnia*