Land off Central St, Holmewood

Ecological Appraisal & Biodiversity Net Gain Assessment

Homes by Honey &

Together Housing/Synergy Housing Ltd

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Summary

This report is an Ecological Appraisal and Biodiversity Baseline Assessment for the proposed residential development of Land off Central St, Holmewood (the 'Site'). It identifies ecological constraints for the development and provides recommendations for mitigation. A baseline biodiversity value for the Site has been calculated and a post-development estimate of biodiversity net gain (BNG), taking account of the submitted soft landscape scheme, has been provided. Targeted species surveys in relation to amphibians, bats and reptiles were further undertaken in order to determine their status within the Site.

The Site is comprised of areas of periodically grazed rank neutral grassland, more permanent grass pasture, and scrub with a hedgerow and line of trees along the boundary. Areas of hard standing (for vehicle parking and turning), a small storage shed are also present at the entrance of the Site. With the exception of the native hedgerow along the southern boundary, all habitats within the Site are not Priority Habitats and are relatively common and widespread, with value to nature conservation at a less than local level. The hedgerow is planned to be retained under current development plans and no direct negative impacts to this habitat are anticipated.

There are no European-designated sites present within 5 km. Williamthorpe Local Nature Reserve (LNR) has been identified within 2 km of the Site, along with four other Local Wildlife Sites (LWS). All sites are located a significant distance from the Site with no direct ecological or hydrological connectivity. Therefore, no direct or indirect impacts to any designated sites are anticipated from the proposed development.

The following ecological receptors have been identified that have the potential to be affected by the proposed development:

Amphibians: A single pond with below average potential to support great crested newt has been identified within 250m of the Site. eDNA sampling of this waterbody yielded inconclusive results. Due to the low HSI score of the pond in combination with lack of connectivity to other ponds, great crested newts are considered unlikely to be present on site but cannot be ruled out. As the site lies within an Amber Risk Zone as precautionary measure, a mitigation licence will be applied for via the Derbyshire District Level Licensing Scheme for great crested newts.

Bats: Low numbers of common and uncommon, widespread bat species use the site for both foraging and commuting. It is recommended that a bat-sensitive lighting plan is implemented within both the construction and post-development phases to prevent unnecessary bat disturbance through increased site illumination.

Birds: Suitable habitat for nesting birds has been identified within the Site and active nests may be present during the nesting season (1st March – 31st August, inclusive). It is therefore recommended that all vegetation should be cleared outside of this period. If this is not possible, a nesting bird inspection should be undertaken a minimum of 48 hours prior to clearance. It is not considered possible to undertake adequate inspections within the areas of dense bramble scrub (as nests cannot be detected without causing significant disturbance) and therefore, all bramble scrub clearance should be undertaken outside of the nesting bird season.

[redacted]

Invasive Non-native Species (INNS) - Japanese knotweed has been identified within the Site. It is recommended that a suitable management plan to ensure the appropriate removal of this species is designed and implemented during site clearance.

The overall baseline biodiversity value of the site was calculated as 6.36 Habitat Units (HU), and 0.64 Hedgerow Units (HeU). The post-development biodiversity value of the site was calculated as 3.83 HU, and 3.15 HeU.

This represents a biodiversity net change of:

- -2.53 HU (-39.82%)
- +2.51 HeU (+392.82%)

To achieve a 10% biodiversity net gain for area-based habitats and watercourses, an additional 3.17 HU is required. Due to habitat trading rules within the Statutory Biodiversity Metric, which stipulate there must be no net loss in any broad habitat type, this must be secured by either on or off-site mitigation of the following unit types:

- 2.81 HU of medium distinctiveness grassland;
- 0.06 HU of medium distinctiveness scrub;
- 0.30 HU of any habitat type.

Based on the current site layout, there is considered to be limited scope for the inclusion of additional grassland and scrub units, therefore off-site mitigation and/or compensation will be required for these unit types. The additional deficit of 0.30 HU may be established on-site through additional tree planting, if possible.

No other ecological receptors were identified. Assessment methodologies, results and subsequent recommendations and/or mitigation measures are provided within this report, including any opportunities for ecological enhancements, where appropriate.

1. Introduction

1.1.1 Envance UK was commissioned by Homes by Honey & Together Housing/Synergy Housing Ltd to undertake a Preliminary Ecological Appraisal and Biodiversity Baseline Assessment of land off Central St, Holmewood (central British National Grid Reference (SK 43172 65581); hereafter referred to as the 'Site'). These works were requested in relation to the proposed development (hereafter referred to as the 'Development') of the Site which is anticipated to include the construction up to 64 no. residential houses with associated access, soft landscaping, and open areas largely in the southern and northern parts of the site. The Site boundary is highlighted in **Figure 1**.

1.1.2 This report documents survey findings and evaluates the likely Important Ecological Features (IEF) of the Site in line with standard guidelines (CIEEM, 2017; 2018). Methodologies employed are described and an evaluation of the Site is given, with recommendations for any further survey work and/or mitigation measures included, where appropriate.

1.1.3 In addition to this, an indicative Biodiversity Net Gain assessment has been undertaken based on the current landscaping plan using the Statutory Biodiversity Metric (DEFRA 2024). This demonstrates proposals for minimising biodiversity losses on-site and the requirements for off-site mitigation/compensation required to achieve the mandatory biodiversity gain target for the Development.

2. Methodology

2.1 Desk Study and Data Consultation

2.1.1 A desk study was undertaken to inform the requirements for survey and obtain additional ecological information outside the scope of field survey. The following sources were consulted to obtain relevant ecological information from within 2 km of the study area (5 km for designated sites of international importance): Derbyshire Biological Records Centre (DBRC) and the Multi Agency Geographic Information Centre (MAGIC) website (www.magic.gov.uk). Records were received from DBRC in March 2023. Only recent records (i.e., from 2012 to 2023) are considered in this report.

2.1.2 The following information was sought and considered:

- records of notable protected and Priority Species;
- records of Priority Habitats;
- details of any statutory sites of ecological interest;
- details of any non-statutory sites of ecological interest; and
- presence of any ponds or other waterbodies within 250 m.

2.1.3 Only ecological features considered to have the potential to be affected by the Development (receptors) are presented within this report.

2.2 Phase 1 Field Survey

2.2.1 A Phase 1 habitat survey was undertaken by suitably qualified and experienced ecologists (*see* Section 2.7: Table 1) on 27th June 2023. The survey followed the UK Habitat Classification (UKHab) survey methodology (Butcher *et al.,* 2020), where the habitats and vegetation types present were recorded, together with an indication of their relative abundance using the DAFOR scale (D = dominant, A = abundant, F = frequent, O = occasional, R = rare), with species names given following Stace (2019). This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all species occurring across the Site.

2.2.2 Site habitats were also assessed for their suitability to support protected or notable species. Any signs of the presence of such species were recorded, including observations of tracks, feeding remains, nests and burrows. Structures and trees within the Site were assessed for their potential to support roosting bats according to the methodology of Collins (2016), where possible.

2.2.3 Invasive non-native plant or animal species (INNS) listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) were recorded as seen.

2.3 Phase 2 Protected Species Surveys

Great Crested Newts

2.3.1 Surveys for the presence/ likely absence of great crested newts *Triturus cristatus* were additionally undertaken in a single pond located within 250 m of the Site. This involved taking water samples for environmental DNA (eDNA) analysis (Biggs *et al*. 2014), as well as carrying out a Habitat Suitability Index (HSI) assessment of the waterbody (Oldham *et al* 2000). The surveys were undertaken during the Phase 1 habitat survey on the 27th of June 2023. Full details of the survey and assessment methodology are given in **Appendix 4**.

Bat Activity

2.3.2 The Site was considered by the Phase 1 survey to contain habitat of low suitability for supporting commuting and foraging bats. Phase 2 nocturnal bat activity surveys were therefore undertaken during summer and autumn 2023. These surveys involved surveyors walking a transect around the Site looking for, and recording, bat activity, as well as the deployment of a static bat detector left *in situ* to record passing bats for periods of five consecutive nights each season. Full details of methodology are given in **Appendix 5**.

Reptiles

2.3.3 The Site was considered by the Phase 1 survey to contain habitat for supporting common species of reptile (barred grass snake *Natrix helvetica*, common lizard *Lacerta fragilis*, and slow worm *Anguis fragilis*). Phase 2 presence/ likely absence surveys for common reptiles were carried out on seven occasions during September and October 2023. Artificial refugia were laid out across the Site and then checked for the presence of individuals. Other areas of habitat suitable for supporting reptiles were also checked. Full details of methodology are given in **Appendix 7**.

2.4 Biodiversity Net Gain Assessment

2.4.1 Biodiversity accounting metrics were employed to assess the baseline biodiversity value of the Site and identify any features of significant value. An estimate of post-development biodiversity value has been predicted from the current landscaping plan: **Landscape Masterplan - Draft, DRWG No: 1613-004.**

2.4.2 The original assessment used the Defra Biodiversity Metric 4.0 (BM4.0) calculation tool (Natural England, 2023), which has been translated to the Statutory Biodiversity Metric (SBM; DEFRA, 2024) to align with current Biodiversity Gain planning legislation (*see Appendix 1*). Habitat measurements were made using digital mapping software (QGIS Geographic Information System version 3.22). Habitat condition was assessed according to the criteria outlined within the metric. The baseline survey and condition assessment were undertaken during the Phase 1 habitat survey. Full details of the survey and assessment methodology are given in **Appendix 8**.

2.5 Policy and Legislation

2.5.1 The principal conservation legislation relevant to this report includes the Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017 (as amended), the Natural Environment and Rural Communities (NERC) Act 2006, the Protection of Badgers Act 1992 and the Hedgerow Regulations 1997.

2.5.2 The relevant primary legislation for the statutory framework for biodiversity net gain is principally set out under Schedule 7A (Biodiversity Gain in England) of the Town and Country Planning Act 1990. This legislation was inserted into the 1990 Act by Schedule 14 of the Environment Act 2021 and was amended by the Levelling Up and Regeneration Act 2023. The Biodiversity Gain (Town and Country Planning) (Consequential Amendments) Regulations 2024 made consequential amendments to other parts of the 1990 Act.

2.5.3 The biodiversity net gain regulations most directly relevant to planning are:

- The Environment Act 2021 (Commencement No. 8 and Transitional Provisions) Regulations 2024 which commence biodiversity net gain for most types of new planning applications and provides transitional arrangements for section 73 permissions.
- The Biodiversity Gain Requirements (Exemptions) Regulations 2024 which prescribe exemptions for categories of development to which biodiversity net gain does not apply.

- The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024 which amend the Town and Country Planning (Development Management Procedure) (England) Order 2015 and the Town and Country Planning (Section 62A Applications) (Procedure and Consequential Amendments) Order 2013 to include provisions in respect of applications for planning permission and the submission and determination of Biodiversity Gain Plans, as well as modifications of Schedule 7A of the Town and Country Planning Act 1990 for phased development.
- The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 which sets out the modifications for irreplaceable habitat.

2.5.4 Local policy is included in the North East Derbyshire Local Plan 2014 – 2034 and Lowland Derbyshire Biodiversity Action Plan (LBAP) 2011-2020.

2.5.5 **Appendix 1** provides further details of policy and legislation.

2.6 Evaluation

2.6.1 The importance of ecological features was determined based on the guidance given by CIEEM (2018). Individual ecological receptors were assigned levels of importance for nature conservation in one of the following categories:

- international;
- national;
- regional;
- county;
- local; or
- less than local.

2.7 Surveyor Experience

2.7.1 Table 1 details all surveyors and their associated experience that have undertaken survey work and analysis for this report.

Table 1 - Surveyor Experience

Surveyor Name	Position	Qualifications	Years Experience	Surveys Undertaken
Paul Wolstenholme	Senior Ecologist	ACiEEM; BSc (hons); Msc; FISC Level 4; GCN Licence No. 2019-41740-CLS-CLS; Bats Licence No. 2021-53560-CLS-CLS	6	Project Manager; Data analysis; Phase 1 surveys (lead); Baseline biodiversity assessment (lead); Reptile presence/ likely absence (lead).
Natasha Rajpurohit	Graduate Ecologist	BSc (hons); Msc;	1	Phase 1 surveys (assistant); Baseline Biodiversity Assessment (assistant);
Daniel Lines	Assistant Ecologist	QualCiEEM; BSc (hons)	2	Bat activity surveys (lead)
Pheobe Parry	Graduate Ecologist	QualCiEEM; BSc (hons)	1	Bat activity surveys (assistant)
Stuart Robinson	Associate Director	BSc (hons); MSc	11	Reptile presence/ likely absence surveys (lead)

2.8 Limitations

2.8.1 This report serves to indicate the value of the Site in nature conservation terms based upon the survey data gathered. As with any survey of this kind, the information collected defines the habitat types present within the Site and their condition and is not intended to be a record of every species present.

Phase 1 Survey

2.8.2 The northern section of the Site was in use as a horse paddock during the survey visits. To avoid any potential issues with interacting with the livestock present, survey and assessment of this area was undertaken by use of close-focussing binoculars. Given the heavily modified nature of the habitat present and the good field of view available for visual assessment, it is considered that a robust assessment of the habitats has been made.

Phase 2 Survey

Great Crested Newts

2.8.3 The GCN surveys were undertaken in late June which is within the optimum period for the detection of newts using eDNA analysis. The eDNA sampling, however, yielded inconclusive results and, therefore, the potential presence of this species within the Site cannot be ruled out. To avoid further delays to the development, a mitigation licence has been applied for via the Derbyshire District Level Licensing Scheme for great crested newts.

Bat Activity

2.8.4 Due to the timings of the Phase 1 survey, it was not possible to undertake bat activity surveys during the spring period (April – May, inclusive). However, it is considered that sufficient data was collected over the following survey periods (summer and autumn) to provide a robust assessment of the use of the Site by bats.

Reptiles

2.8.5 Due to the timings of the Phase 1 survey and periods of inclement weather during September, reptile survey visits 4 – 7 could not be undertaken within the optimum survey months for such surveys (April, May, and September). The survey visits were, however, undertaken in early October during optimal weather conditions (12 -20˚C, full/partial sun, dry) and as such, it is considered that a robust assessment of the presence/ likely absence of reptiles has been made.

2.8.6 The only exception to this is visit 5, for which temperatures exceeded 20˚C during the survey. Temperatures were not extreme, however (maximum of 21˚C recorded) and as the survey was undertaken after a period of overcast weather, any reptiles present will have still been likely to have utilised artificial refugia for basking. As such, it is unlikely to have had a significant impact on the results of the survey.

Baseline Biodiversity Assessment

2.8.7 The last site visit as part of this assessment was undertaken in October 2023, which is prior to the implementation of mandatory Biodiversity Net Gain which came into force in February 2024. Degradation activities had occurred within the Site since the original survey visit pony grazing of the southern area) and as such, the baseline assessment of the Site has been calculated from the conditions present during the original Phase 1 survey, prior to these activities taking place. From review of aerial imagery, Site conditions remain the same following the final survey visit and therefore an updated validation survey is not considered to be required as conditions are unlikely to have improved prior to the degradation activities.

2.8.8 The baseline survey methodology was undertaken using BM4.0 methodology, which has now been superseded by the Statutory Biodiversity Metric. However, it is considered that sufficient information

was collected during the baseline survey to assess the baseline value of the Site using the SBM methodology and these results can be translated to the new metric calculation tool without any significant limitations on the results.

3. Baseline Conditions

3.1 Site Description

3.1.1 The Site is approximately 1.87 ha in area and at the time of the Phase 1 survey, the northern area had horses grazing with an area of grassland occupying the southern part of the site. An informal route runs through the centre of the site towards the playing fields to the east. Along the southern boundary is a well-maintained bridleway, that separates the Site from a large block of young, plantation woodland. A further, more established area of self-seeded woodland is also present along the south-western boundary. Both are publicly accessible, with well-defined footpaths that appear to be frequented by dog walkers.

3.1.2 The village of Holmewood is situated to the north of the site, formed mostly by residential development with commercial development present on its fringes. Beyond the woodland blocks to the south-east and east, is an expanse of agricultural land which eventually meets the M1 motorway in the east.

3.2 Designated Sites

Statutory

3.2.1 A single statutory designated site was identified within 2 km of the Site, Williamthorpe Local Nature Reserve (LNR) located 713 m north (Figure 2). This site is designated for a mix of woodland, grassland, and wetland habitats, supporting a wide range of birds, mammals, and invertebrates. No European-designated sites were identified within 5 km of the Site.

3.2.2 The Site is located a significant distance from Williamthorpe LNR, with no direct ecological or hydrological connectivity present between them. As such, no direct or indirect impacts to the LNR would be anticipated from the proposed residential development of the Site. Therefore, statutory sites are not considered to be a potential receptor for the Development and are not discussed further in this report.

Non-Statutory

3.2.3 DBRC returned details of four Local Wildlife Sites (LWS) within 2 km of the Site. Site locations are highlighted in Figure 2, with descriptions and locality to the Site detailed in Table 2.

Table 2 - Non-Statutory Sites within 2 km of the Site

Site Names	Area (ha)	Distance (km)	Features
Broomridding Wood	6.20	1.38	Ancient woodland
Williamthorpe Ponds	19.0	0.72	Reedbed
Astwith Dumbles	17.8	1.35	Ancient woodland
Stainsby Pond	1.1	1.59	Standing open water

3.2.4 All four sites are located a significant distance from the Site, with no ecological or hydrological connectivity identified between them. Therefore, LWSs are not considered a receptor for the Development and are not discussed further in this report.

3.3 Priority Habitat

3.3.1 No areas of Priority Habitat within the Priority Habitat Inventory have been identified within 2 km of the Site. The only Priority Habitat present within the Site is the native hedgerow along the southern boundary. This is discussed in further detail in section 3.6.

3.3.2 As a Priority Habitat is present within the site, Priority Habitats should be considered as a receptor for

the Development.

3.4 Ancient Woodland

3.4.1 Ancient woodland has been identified within 2 km of the Site, present as isolated woodland blocks within the Broomriding Wood and Astwith Dumbles LWSs (Figure 3).

3.4.2 No areas of ancient woodland were identified either within the Site, or within the immediate surrounding environment. Therefore, ancient woodland is not considered to be a receptor for the Development and is not discussed further in this report.

3.5 Waterbodies

3.5.1 The closest major watercourse is Muster Brook located approximately 1.3 km north of the site. This flows into waterbodies as part of the Williamthorpe Ponds LWS and LNR. No direct hydrological connectivity is present between the Site and this watercourse, with the only minor, unconnected, drainage ditches present within surrounding land, running along the southern boundary of the Site.

3.5.2 A single waterbody has been identified within 250 m of the Site. The waterbody is located within a low-intensity agricultural grassland at the edge of a young woodland block, that extends to the Site's southern boundary. The pond is approximately 172 m southeast of the Site with no direct hydrological connectivity.

3.5.3 Due to distance from the Site, no direct impacts on the functionality of any of the identified major waterbodies are anticipated as a result of the development of the Site. The pond, however, may support amphibian populations that utilise Site habitats for foraging and shelter. This is discussed further in section 3.7.

3.6 Site Habitats

3.6.1 Site habitats are described in table 3 below using UK Habitat Classification terminology and mapped in Figure 4. It should be noted that some of the terminology employed in the biodiversity net gain assessment (Panks *et al*., 2023) is different to that used by UK Habitat Classification and this is highlighted, as necessary, in Appendix 6. Photographs are presented in Appendix 2, with a plant species list for each habitat type provided in Appendix 3.

Table 3 - Description of Site habitats[1]

Habitat	Description
Other neutral grassland - g3c5 10 14; g3c7 10; g3c8 12 501	1.06 ha, poor condition. Unmanaged rank neutral grassland dominates the southern half of the Site (1.08 ha; Photograph 1). The majority of this habitat is dominated by Yorkshire fog *Holcus lanatus*, with scattered areas of common bent *Agrostis capillaris* and tufted hair grass *Deschampsia cespitosa*, as well as a number of forbs including tufted vetch *Vicia cracca* and meadow vetchling *Lathyrus pratensis*. This species composition is characteristic of a Deschampsia neutral grassland (UKHab: g3c7). In more disturbed areas of this habitat, including unmanaged areas of the Site entrance, an abundance of ruderal herbs, bramble *Rubus fruticosus* agg., as well as the coarse grass species false-oat grass *Arrhenatherum elatius* and cock's foot

[1] The UKHab Classification habitat type is shown, followed by the corresponding Statutory Biodiversity Metric habitat type (which is used for calculation of the biodiversity baseline and biodiversity net-gain).

Habitat	Description
	Dactylis glomerata. This is more representative of an Arrhenatherum neutral grassland (UKHab: g3c5). In the south-eastern corner of the site, seasonally wet soils form supporting an abundance of species typically present as emergent on the fringes of waterbodies (Seasonally Wet Soils in Figure 4; Photograph 2). This included abundant flag iris *Iris pseudacorus*, soft rush *Juncus effusus,* and hard rush *J. inflexus*. This community and soil conditions most closely align with a Holcus-Juncus neutral type grassland (UKHab: g3c8). During phase 2 surveys in late summer/autumn it was observed that this grassland was being used for grazing by a small number of ponies. It is considered that given the timings of this management type and the previous habitat condition, the baseline habitat type should not change in light of this management change. This type of low-intensity management is typically recommended for this habitat type to prevent succession into dense scrub habitats and improve grassland condition. Scattered scrub is abundant throughout this habitat with bramble intertwined through large areas of the sward, along with mature hawthorn *Crataegus monogyna* and willow *Salix* sp. saplings. Scattered bracken *Pteridium aquilinum* is also present along the eastern boundary. This habitat represents a mosaic of grassland types, typical of neutral soils with varying levels of drainage and disturbance. None of the grassland types described are considered to be Priority Habitat and due to the absence of suitable management, they have been assessed to be in poor condition. As such, they are considered to be of importance to nature conservation at the less-than-local level.
Modified grassland - g4 61	0.57 ha, poor condition. The north of the Site is formed by a grassland area that appears to be more permanently used as a horse paddock (0.57 ha; Photograph 3). This area is more dominated by coarse grass species, including a greater abundance of perennial rye grass *Lolium perenne,* intensively grazed to a short-sward. Unpalatable tall grasses and herbs are also sparsely scattered throughout the habitat. This habitat is intensively grazed and will be extremely common and widespread in the wider area. Therefore, it is considered to be of importance to nature conservation at the less-than-local level.
Bramble scrub - h3d	0.11 ha, condition assessment not applicable. Large patches of dense scrub dominated by bramble *Rubus fruticosus* agg; are present around the western margin of the horse paddock in the north of the Site (0.11 ha; Photographs 4). Scattered willow saplings are also present, but bramble occupies more than 70% of the habitat. This habitat is extremely common and widespread and has been assessed as poor condition due to a lack of diversity in woody species and age structure. Therefore, it is considered to be of importance to nature conservation at the less-than-local level.

Habitat	Description
Mixed scrub - h3h	0.07 ha, poor condition. Along the eastern margin of the northern horse paddock is an area of dense scrub formed by a greater diversity of woody shrubs (0.068 ha; Photograph 5) including blackthorn *Prunus spinosa*, elder *Sambucus nigra*, and hawthorn in addition to bramble. This habitat is not considered to be Priority Habitat and will be common and widespread in the wider area. Therefore, it is considered to be of importance to nature conservation at the less-than-local level.
Willow scrub - h3	0.003 ha, poor condition. A section of dense self-seeded mature willow scrub is present along the south-western corner of the Site (0.013 ha; Photograph 6). This habitat type is not Priority Habitat and is assessed as poor condition due to a lack of diversity in woody species and age structure. Therefore, it is considered to be of importance to nature conservation at the less than-local-level.
Native Hedgerow - h2a	0.07 km, good condition. An outgrown hawthorn hedgerow forms the south-eastern boundary of the Site (0.07 km; Photograph 7). It is approximately 5 m tall by 4 m wide with a drainage ditch running alongside, between the hedgerow and the bridleway south of the Site boundary. Although the hedgerow does provide some connectivity between woodland areas to the south and west of the Site, it supports a poor diversity of woody species and does not support enough significant features to be considered an important hedgerow under the Hedgerow Regulations 1997. Native hedgerows are considered to be Priority Habitat and are included within the Lowland Derbyshire Biodiversity Action Plan. Therefore, it is considered to have local value to nature conservation.
Line of Trees - w1g6	0.11 km, poor condition. A line of mature trees is present along the eastern boundary of the Site (0.11 km; Photograph 10). The trees appear to have been planted as screening/ wind break for adjacent playing fields and were formed of native tree species such as pedunculate oak *Quercus robur* and field maple *Acer campestre*. Significant canopy gaps are present, however, and the ground flora under the canopy was formed of sparsely vegetated bare ground. 0.033 ha, moderate condition. Two medium sized trees (Diameter >30 cm) area present within the line of trees habitats. These are recorded separately as part of the SBM methodology. Both are native species with no significant ecological niches or decay features present. This habitat is common and widespread as a linear boundary habitat, and as such, is of importance to nature conservation at the less than the local level. It does, however, add some structural diversity to the Site.
Developed land; sealed surface - u1b 73	0.06 ha, condition assessment not applicable. At the entrance of the Site, an access road for vehicle parking and turning is present (0.06 ha; Photograph 8). An unvegetated concrete platform is also

Habitat	Description
	present. All urban habitats present support very limited to no vegetation, with no significant ecological niches present for species to live and breed. Therefore, they are considered to have negligible value for nature conservation.
Buildings - u1b5	0.001 ha, condition assessment not applicable. A storage shed is present within the entrance of the Site, formed on un-insulated corrugated metal (0.001 ha; Photograph 9). All urban habitats present support very limited to no vegetation, with no significant ecological niches present for species to live and breed. Therefore, they are considered to have negligible value for nature conservation.

3.7 Species

Amphibians

3.7.1 DBRC returned one recent record for amphibians from within 2 km of the Site. This pertained to smooth newt *Lissotriton vulgaris*. No European Protected Species (EPS) mitigation licence applications for GCN have been identified within 2 km of the Site. The Site is partially located within an amber risk zone for GCN.

3.7.2 A single pond has been identified within 250 m of the Site (P1 in Figure 3; Photograph 11), not separated by any major ecological barriers (i.e. major roads and watercourses). This pond was surrounded by willow scrub, with an agricultural hay meadow to the south and young woodland to the north. The pond itself was heavily choked by bulrush *Typha latifolia* with very few suitable emergent species present as newt egg-laying habitat. Water levels were also very low at the time of the survey. Common frog *Rana temporaria* tadpoles were observed, however. The HSI assessment for the pond assessed the suitability as below average for GCN.

3.7.3 The results of eDNA water sampling were inconclusive due to the level of contamination present within the sample. The unmanaged grassland and scrub in the south of the Site may provide some value to amphibians as sheltering and foraging habitat. Therefore, the presence of GCN, as well as other common amphibians, within the Site cannot be ruled out and should be considered as a receptor for the development.

3.7.4 Full results of the GCN surveys are provided in Appendix 4.

Bats

3.7.5 DBRC returned three recent records of bats from within 2 km of the Site, including records of roosting for brown long-eared bat *Plecotus auritus* and common pipistrelle *Pipistrellus pipistrellus*. Unidentified bat activity was also reported. Two EPS mitigation licences granted by Natural England were identified within 2 km, both pertaining to the damage/destruction of a resting place for common pipistrelle. No roost records have been identified within the Site itself and neither licence was located within the Site or surrounding habitats.

<u>Roosting Bats</u>

3.7.6 All trees and structures present at the Site have been assessed as supporting negligible potential for roosting bats. Therefore, roosting bats are not considered a receptor for Development and are not discussed further in this report. Full results are detailed in Appendix 5.

Foraging and Commuting Bats

3.7.7 Bat activity surveys showed that the Site is used regularly for commuting and foraging by low numbers of common pipistrelles, with more infrequent use by soprano pipistrelle *Pipistrellus pygmaeus*; noctule *Nyctalus noctule*; brown long-eared bat and *Myotis* species. Bat activity was strongly focused on woodland edges, tree lines and hedgerows present along the eastern and southern boundary. The timings and abundance of bats observed and recorded indicate that a significant summer roost is not present in the immediate wider area, however, it is possible that small roosts of common pipistrelle, brown long-eared bat, and *Myotis* species may be present within the woodland and residential areas that surround the Site. Full details of these survey results are given in Appendix 5.

3.7.8 With only regular use of Site habitats by relatively low numbers of common and widespread bat species for foraging and commuting, no suitable roosting habitat present within the site itself, and the presence of more valuable foraging habitat in the immediate surrounding area, the Site is unlikely to represent a highly valuable local resource. However, bats have been observed to be present within the Site, including more uncommon, but widespread species (such as noctule and *Myotis* species) and in addition, there is potential for smaller roosts to be present in the immediate wider area. As such, the Site has been assessed to be of local value for foraging and commuting bats and there is potential for disturbance to occur both during the construction and post-development phases. Therefore, foraging and commuting bats are considered to be a potential receptor for the Development.

Birds

3.7.9 DBRC returned 13 recent records for specially protected or otherwise notable species of bird from within 2 km of the Site. This includes two species specially protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and two birds listed as of 'red' conservation concern (Stanbury *et al.,* 2021). The full list is provided in Appendix 6.

3.7.10 No rare or specially protected birds were observed during the Site surveys. The Site is located on the urban fringe of Holmewood and it is relatively disturbed by human activities, such as dog-walking and horse grazing. As such, it is considered unlikely to represent a significant resource for bird populations in the local area and rare and/or specially protected bird species are unlikely to be present in significant numbers.

3.7.11 The scrub, trees, hedgerow and surrounding woodland edge, will however, provide suitable nesting resource for a range of common and widespread species such as great tit *Parus major*, wren *Troglodytes troglodytes*, song thrush *Turdus philomelos*, and blackbird *Turdus merula*, all of which were observed during the site visit. In addition to this, it is possible that ground-nesting birds may be present within the unmanaged grassland in the south of the Site.

3.7.12 Nesting birds will therefore have the potential to be negatively impacted by the development of the Site and should be considered as a receptor for the Development.

Protected and Notable Plant Species

3.7.13 DBRC returned records of a single notable plant species from within 2 km of the Site: spiny restharrow *Ononis spinosa*. This species is listed as near threatened on the Vascular Plant Red List for England. Although suitable habitat for this species is present (i.e. rough unmanaged grassland), no evidence of the presence of this species was observed during any of the Site visits, or of any other protected and/or notable plant species. Therefore, they are not considered a receptor for the Development and are not discussed further in this report.

Terrestrial Invertebrates

3.7.14 DBRC returned records of three notable invertebrate species listed as priority species under S41 of

the NERC Act 2006. This included: dingy skipper *Erynnis tages*, wall brown *Lasiommata megera* and wood white *Leptidea sinapsis*.

3.7.15 No evidence of these species was observed during the Site visit, and the Site does not support structural/spatial diversity to support significant communities of notable terrestrial invertebrates. For example, areas of standing or fallen dead wood, brownfield habitat mosaics and quality standing and running freshwater environments are absent. Although, suitable larval food plants for wood white were identified within the unmanaged grassland sward in the south of the Site, including tufted vetch *Vicia cracca* and meadow vetchling *Lathyrus pratensis*, during the original survey visit, degradation in these activities (pony grazing) had acted to remove these species and as a result, significant populations of this species are unlikely to be present.

3.7.16 Therefore, notable invertebrate species are not considered as a receptor for the Development and are not discussed further in this report.

Reptiles

3.7.17 DBRC returned 13 recent records for reptiles from within 2 km of the Site. All records pertained to barred grass snake *Natrix helvetica*.

3.7.18 No evidence of the use of the Site by reptiles was observed during the Site visit or during any of the presence/ likely absence surveys. Therefore, reptiles are considered highly unlikely to be present within the Site and are not considered as a receptor for the Development. Full survey results are provided in Appendix 7.

Otter and Water Voles

3.7.19 No recent records of European water vole *Arvicola amphibius;* and Eurasian otter *Lutra lutra;* from within 2 km of the Site.

3.7.20 No major watercourses are present within 50 m of the Site. A minor drainage ditch is present along the southern boundary of the Site, but it is unlikely to hold permanent water and is not connected to any major watercourse in the wider area. As such, it is considered unlikely to support riparian mammals.

3.7.21 Therefore, riparian mammals are not considered to be a receptor for the Development and are not discussed further in this report.

Terrestrial Mammals

3.7.22 DBRC returned recent records of a single notable and protected terrestrial mammal species from within 2 km of the Site. These records pertained to [redacted]

3.7.23 [redacted]

Invasive Non-Native Species

3.7.25 DBRC returned records of eight invasive non-native plant species from within 2 km of the Site. All species recorded are listed as invasive non-native species within Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and are listed in Table 3.

Table 4 - Invasive Non-native Species within 2 km

Common Name	Scientific Name
Hollyberry cotoneaster	*Cotoneaster bullatus*
New Zealand pigmyweed	*Crassula helmsii*
Japanese knotweed	*Reynoutria japonica*
Giant hogweed	*Heracleum mantegazzianum*
Variegated yellow archangel	*Lamium galeobdolon subsp. argentatum*
Rhododendron	*Rhododendron ponticum*
Japanese rose	*Rosa rugosa*

3.7.26 A stand of Japanese knotweed has been identified within the Site (TN1 in Figure 4; Photograph 12). No other species were observed during the Site visit. Invasive plants are therefore considered as an ecological constraint within the Site and should be considered within Development plans.

3.8 Biodiversity Baseline Assessment

3.8.1 For biodiversity calculations Site habitats are defined as area-based (e.g. woodland, scrub and grassland), linear-based (e.g. lines of trees and hedgerows) and river-based (rivers and streams, canals and ditches).

3.8.2 The following baseline biodiversity values were thus obtained for the Site:

- area-based habitats generated 6.36 Habitat Units (HU)
- linear-based habitats generated 0.64 Hedgerow Units (HeU)

3.8.3 Full results of the Biodiversity Baseline Assessment are provided in Appendix 8.

4. Potential Impacts, Recommendations and Mitigation

4.1.1 Potential impacts of the Development on identified receptors are described in this section. Recommendations for avoidance and minimisation of impacts are provided, as well as suggestions for appropriate mitigation.

4.2 The Proposed Development

4.2.1 The proposed Development includes the erection of up to 64 no. residential dwellings. Plans outlined in the current site layout (Drawing no: 2412.01_D; 'Central Street Holmewood: Planning Layout') indicate that the land take of the Development will equate to approximately 1.87 ha and is expected to include the complete or partial removal of the following existing habitats: other neutral grassland, modified grassland, bramble and mixed scrub, and urban habitats. South of the developed area, extending along the eastern boundary to the north of the Site, open areas will be retained for ecological and biodiversity purposes, with the creation of an additional drainage basin feature to help manage surface run-off. All boundary hedgerows and tree lines will be retained and enhanced where feasible.

4.3 Priority Habitat

4.3.1 A Priority Habitat native hedgerow is present along the southern boundary of the Site. Under current development plans, this hedgerow is due to be retained as part of open areas that are planned for the development. No direct or indirect impacts are anticipated.

4.4 Amphibians

4.4.1 GCN are protected under the Wildlife and Countryside Act 1981 (as amended), and the Conservation of Habitats and Species Regulations 2017 and are a European Protected Species (EPS).

4.4.2 Suitable habitat for amphibians is present within the Site and the results of eDNA sampling of nearby suitable waterbodies returned inconclusive. Therefore, there is a potential risk of individual amphibians, including GCN, being present within the Site that may be negatively impacted during the construction phase.

4.4.3 A licence enquiry has been applied for via the Natural England District Level Licencing (DLL) Scheme for Derbyshire and the compensatory payment has been agreed. The Impact Assessment and Conservation Payment Certificate is provided alongside this report. No further delays should occur in relation to GCN through this process. However, suitable reasonable avoidance measures (RAMs) pertaining to amphibians are likely to be required to be implemented during Site clearance as part of the licence agreement. These should be included within a Construction Environment Management Plan (CEMP) for the Site and will ensure no direct impacts to any individual amphibians if present.

4.5 Bats

4.5.1 All species of bat occurring within the UK are included in Schedule 2 of the Conservation of Habitats and Species regulations 2017 (as amended). Under Regulation 41, bats are protected from deliberate capture, injury or killing, from deliberate disturbance, and from deliberate damage/destruction of a breeding site or resting place.

4.5.2 All UK bats are also included in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). However, their protection is limited to certain offences. Under the Act it is an offence to intentionally, or recklessly, disturb bats while they are occupying a structure or place used for shelter or protection, or to obstruct access to any such place.

4.5.3 Barbastelle *Barbastella barbastellus*, noctule, and soprano pipistrelle are also included as Species of Principal Importance listed under Section 41 of the NERC Act 2006.

Foraging/Commuting Bats

4.5.4 Although the Site has been assessed as supporting local value for foraging and commuting bats, the proposed Development will only result in a very minor loss of suitable foraging and commuting habitat (i.e. bramble and mixed scrub) within the Site, within the majority of higher value habitat due to be retained, including the tree lines along the eastern boundary, the native hedgerow along the southern boundary. In addition to this, a buffer of semi-natural habitats is due to be retained around the woodland edge along the southern and southwestern boundary, separating the development from suitable foraging habitats. As such, the predicted impact of the Development on local bat populations is only likely to be important at a less-than-local level.

4.5.5 There is, however, a risk of potential adverse impacts to commuting and foraging bats through disturbance as a result of increased illumination levels (causing the disruption of the life cycle of nocturnal insects, which may indirectly cause a decline in their availability as prey for bats) during both the construction and post-development phase. Depending on the scale of illumination levels, impacts may cause significant disturbance to bat populations present within the Site.

4.5.6 To avoid adverse impacts on bats, a sensitive lighting plan should be produced for both the construction and post-development phases. This should include the following:

- Avoidance of night-time illumination of Westleigh Brook and adjacent habitat as far as possible.
- During the bat activity period (April – October, inclusive), night-time (sunset – sunrise) illumination of the Site and surrounding suitable habitats should be avoided as far as possible during the construction. If lighting is required during this period, it should be directed using a narrow beam, illuminating the minimum required areas and avoiding unnecessary light spill.
- Post-development lighting should use LED luminaires where possible, with a warm white spectrum of light (<2700 Kelvin) and peak wavelengths higher than 550nm.

4.5.7 Following this guidance will act to minimise light levels within the Site and reduce unnecessary disturbance to foraging/commuting bats and their prey. Further guidance for bat-sensitive lighting plans is provided within the '*Bats and Artificial Lighting in the UK*' guidance notes provided by the Bat Conservation Trust (BCT, 2018). Guidance note 01/21 'The Reduction of Obtrusive Light' produced by the Institution of Lighting Professionals (ILP) provides further advice on the installation of lighting to reduce light spill.

Nesting Birds

4.5.8 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) against the intentional damage or destruction of their active nest. Birds listed under Schedule 1 of the act are afforded further protection including disturbance of both adult birds and their young during the nesting bird season (1st March – 31st August).

4.5.9 Suitable nesting habitat has been identified within the trees, scrub and unmanaged grassland present within the Site. It is recommended that all vegetation clearance is undertaken outside of the bird nesting season (1st March – 31st August, inclusive). If any clearance of is required during the bird nesting season, inspections will be required to look for active nests.

4.5.10 It is not considered possible to undertake adequate inspections within the areas of dense bramble scrub (because nest cannot be detected without causing significant disturbance) and therefore, all bramble scrub clearance should be undertaken outside of the nesting bird season.

4.6 Terrestrial Mammals

Badgers

4.6.1 Under the Wild Mammals (Protection) Act 1996, it is an offence for any person to intentionally inflict unnecessary suffering on any wild mammal. It is also an offence under the Protection of Badgers Act 1992 to kill or injure badgers, to disturb them while they are occupying a sett, or to damage, destroy or obstruct access to an active sett.

4.6.2 [redacted]

4.6.3 To avoid any adverse impacts, it is recommended that the Site CEMP also includes RAMs pertaining to this species and any other terrestrial mammals that may be present.

4.7 Biodiversity Net Gain

4.7.1 For biodiversity calculations, it has been presumed that the current watercourse footprint will be retained. Post-Development habitats are visualised in **Figure A8.1.** Details of their management are provided in **Appendix 8.**

4.7.2 Post-development, the following biodiversity values are predicted for the Site:

- area-based habitats generated 3.83 Habitat Units (HU);
- hedgerow-based habitats generated 3.15 Hedgerow Units (HeU);

4.7.3 This represents a **-2.53 HU (-39.82%)** loss for area-based habitats, and **+2.51 HeU (+392.82%)** in hedgerow-based habitats.

4.7.4 To achieve a 10% biodiversity net gain, the following biodiversity units would be required:

- 3.17 HU
  - *To satisfy trading rules, 2.81 HU of medium distinctiveness grassland habitat or a higher distinctiveness habitat and 0.06 HU of medium distinctiveness scrub or a higher distinctiveness habitat type will be required to offset the loss of these habitat types during the Development. See 'Achieving Biodiversity Net Gain' in **Appendix 8** for more details.*

4.7.5 Based on the current Development plan, it is not considered possible to achieve biodiversity net gain for HU on-site without a significant loss in the development area and off-site mitigation and/or compensation will be required.

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6. Figures

Figure 1 - Site Overview



Legend

Site Boundary

0 50 100 150 m

Land off Central St, Holmewood

Site Overview

Date	October 2023
Scale	1:3000@A3
Drawing Ref:	0316/SO

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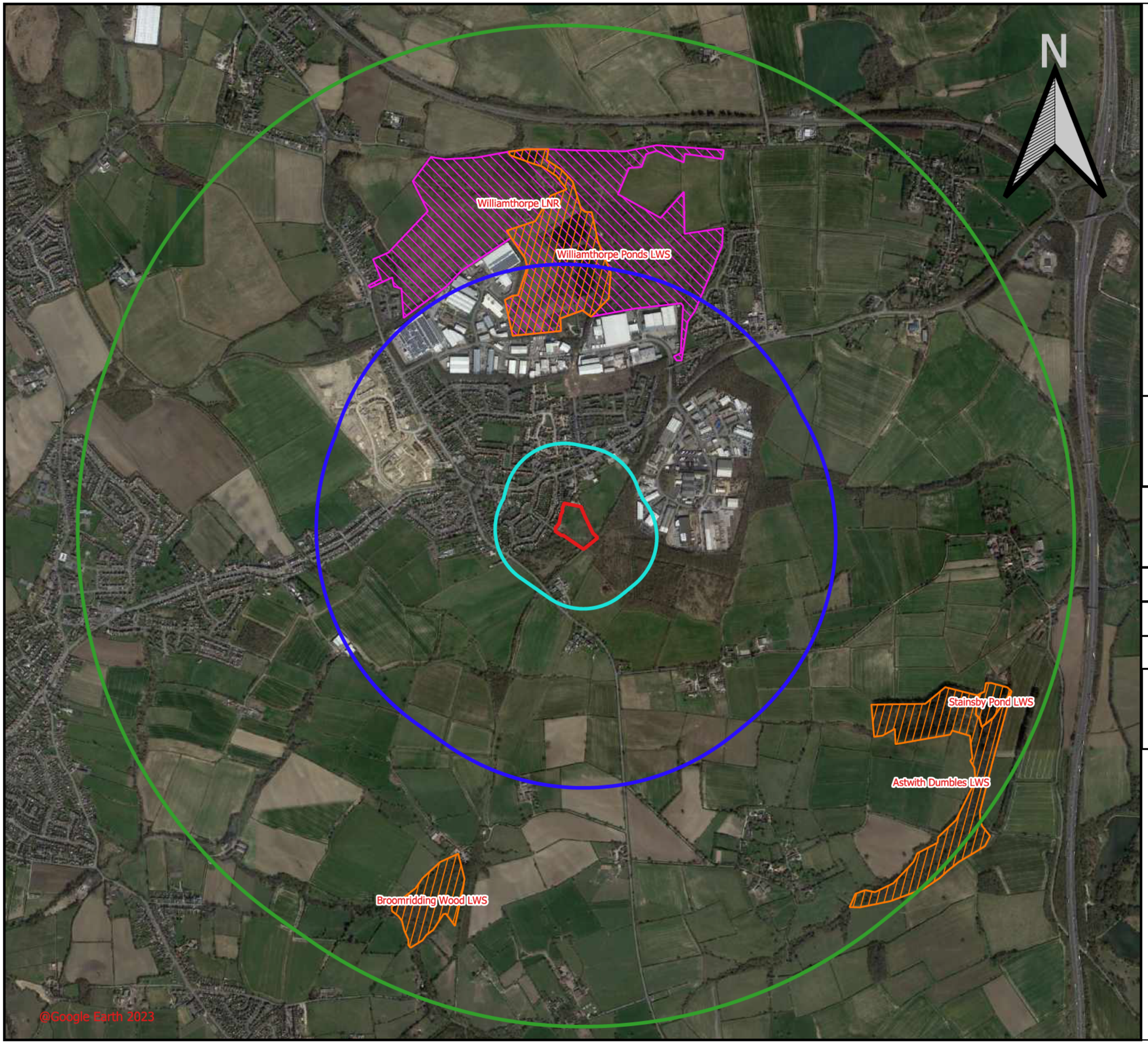
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Figure 2 - Designated Sites



Legend

- Site Boundary
- 250 m Buffer
- 1 km Buffer
- 2 km Buffer
- Local Nature Reserves (LNR)
- Local Wildlife Sites (LWS)

0 0.5 1 km

Land off Central St, Holmewood

Designated Sites

Date	October 2023
Scale	1:15000@A3
Drawing Ref:	0316/DS

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Figure 3 - Priority Habitats, Ancient Woodland & Major Waterbodies



Legend

- Site Boundary
- 250 m Buffer
- 1 km Buffer
- 2 km Buffer
- Ancient Woodland
- Identified Ponds
- Main Rivers

0 0.5 1 km

Land off Central St, Holmewood

Priority Habitats, Ancient Woodland & Major Waterbodies

Date	October 2023
Scale	1:15000@A3
Drawing Ref:	0316/PH/AW/MW

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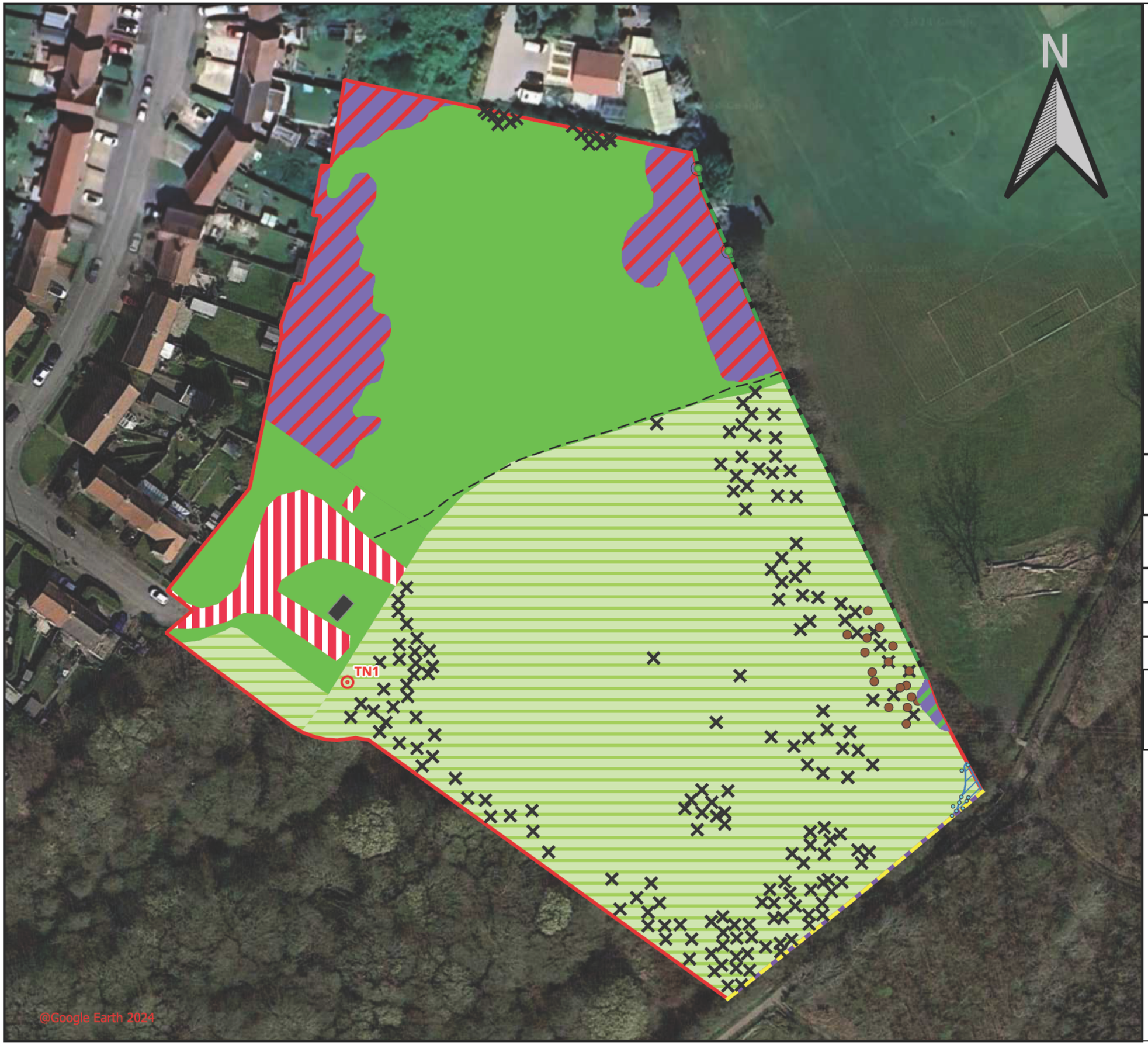
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Figure 4 - Baseline Habitat Map

The table below lists the target notes from Figure 4.

Target Note ID	Description
TN1	Stand of Japanese Knotweed



Legend

- Site Boundary
- Bramble scrub
- Developed land; sealed surface
- Mixed scrub
- Modified grassland
- Other neutral grassland
- Willow scrub
- Seasonally wet soils
- Line of trees
- Native hedgerow
- Footpath
- Medium-sized tree
- Scattered Scrub
- Scattered Bracken
- Scattered Rushes
- Target Note

0 25 50 m

Land off Central St, Holmewood

Baseline Habitat Map

Date	May 2024
Scale	1:750@A3
Drawing Ref:	0316-BHM-V2

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Appendix 1. Policy and Legislation

Legislation

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) allows for the designation of National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSIs), to protect areas containing habitats and species of national or international importance.

The 1981 Act also provides for the protection of certain species. These include nesting birds, with additional special protection for birds listed within Schedule 1, as well as a range of other protected animals listed in Schedule 5 (including reptiles, water vole and certain species of invertebrates). A number of protected plant species are also listed within Schedule 8.

The Conservation of Species and Habitats 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) provide domestic implementation of the EU Habitats Directive 1992. Under the Regulations, species listed in Annex II of the Directive are given strict protection in the UK as European protected species and it is an offence intentionally or recklessly to disturb or to harm a European protected species.

Projects which are likely to affect European protected species are subject to assessment criteria. Under Part 5 of the Regulations a licence may be granted for a project affecting a European protected species for specific purposes.

Natural England is the licensing authority for derogation licenses. A derogation licence may only be granted, provided:

- that there is no satisfactory alternative; and
- the action authorised will not be detrimental to the maintenance of the population of a European protected species at a favourable conservation status in its natural range.

All public authorities are required to have regard to the provisions of the Habitats Directive in the exercise of their functions under Regulation 9 of the Habitats Regulations. Guidance on the application of the Habitats Regulations is set out in the Joint ODPM and Department for the Environment, Food and Rural Affairs (DEFRA) circular 06/2005 & 01/2005.

Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Protection of Badgers Act 1992

Under the Protection of Badgers Act 1992 all badgers and their setts are protected from disturbance. The Act also includes provisions to allow Natural England to grant licences permitting interference with a badger sett in the course of development. Such a licence will normally incorporate conditions to ensure that undue disturbance and suffering to badgers is avoided during the development works.

Hedgerow Regulations 1997

Under the Hedgerow Regulations 1997, provision is made for the notification of "*important*" hedgerows. To qualify for notification, hedgerows must fulfil a range of criteria relating to their historical, landscape or wildlife character. In accordance with the Regulations, the intention to remove any hedgerow should be notified to the Local Planning Authority (LPA) via a hedgerow removal notice. The LPA may issue a Hedgerow Retention Notice to prevent the loss of an "*important*" hedgerow. Where permission is granted to remove an "*important*" hedgerow, the LPA may impose conditions to mitigate the loss.

Town and Country Planning Act 1990 – Biodiversity Net Gain

Under Schedule 7A of the Town and Country Planning Act 1990 (inserted by Schedule 14 of the Environment Act 2021), grants of planning permission are to be subject to a condition to secure that the biodiversity net gain objective is met. Specifically:

- The biodiversity gain objective is met in relation to development for which planning permission is granted if the biodiversity value attributable to the development exceeds the pre-development biodiversity value of the onsite habitat by at least the relevant percentage.
- The biodiversity value attributable to the development is the total of—
    - the post-development biodiversity value of the onsite habitat,
    - the biodiversity value, in relation to the development, of any registered offsite biodiversity gain allocated to the development, and
    - the biodiversity value of any biodiversity credits purchased for the development.
- The relevant percentage is 10%.
- The Secretary of State may by regulations amend this paragraph so as to change the relevant percentage.

The Schedule goes on to emphasise the use of the most recent version of the Statutory Biodiversity Metric, detail from when the baseline biodiversity of a relevant Site should be calculated, how post-development biodiversity values should be calculated, and how off-site biodiversity gains should be registered and calculated.

Policy

National Planning Policy Framework

The National Planning Policy Framework (NPPF, 2021) sets out the Government's planning policies for England and how these are expected to be applied. The NPPF creates a presumption in favour of granting planning permission for sustainable developments, unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies within the framework as a whole or if specifically restricted within the NPPF.

Section 15 of the NPPF deals with Conserving and enhancing the natural environment.

Paragraph 174 states that "Planning policies and decisions should contribute to and enhance the natural and local environment by:

- *protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services;*
- *maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*

- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability;*
- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."*

Paragraph 180 states that "When determining planning applications, local planning authorities should apply the following principles:

- *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted.*
- *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons63 and a suitable compensation strategy exists; and*
- *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*

North East Derbyshire Local Plan 2014 – 2034

North East Derbyshire Local Plan was adopted in November 2021 and represents the strategic local plan for the borough. The key policy in relation to biodiversity and ecology is Strategic Policy 24 (SP24) - Biodiversity and Geodiversity.

Policy SDC4: Biodiversity and Geodiversity

The Council will protect and enhance the District's natural environment and seek to increase the quantity and quality of biodiversity and geodiversity by:

- *Protecting designated national and local sites of nature conservation importance and geodiversity value including SSSI's, LNR's, LWS's, and RIGS's as shown on the Policies Map. Development proposals affecting designated sites will not be permitted unless it can be demonstrated that significant harm can be avoided, mitigated, or as a last resort, compensated for by the development. Any proposed development that would be likely to adversely affect designated SSSI's will not be permitted.*
- *Promoting the qualitative enhancement of all sites of biodiversity and geodiversity value (including designated SSSI's, LNR's, LWS's and RIGS's, and other sites with protected and priority species) by supporting measures that improve wildlife habitat connectivity and create new wildlife habitats. Such measures could include maintaining trees, native vegetation and improving green infrastructure for the benefit of wildlife.*
- *Not permitting development which would adversely affect the integrity of designated sites of international importance for nature conservation (SPA's and SAC's) located outside of the Plan area; except for imperative reasons of overriding public interest, and only where adequate compensatory measures are provided.*

Lowland Derbyshire Biodiversity Action Plan (LBAP) 2011-2020

Lowland Derbyshire Biodiversity Action Plan identifies local priorities for biodiversity conservation so that national targets can be delivered at a local level. It identifies several different priority habitats and their distribution within Derbyshire and sets out targets for the preservation and creation of these habitats. It also identifies the presence of protected species in Derbyshire and sets out targets for their protection and increase in number.

The following habitats and species included within the plan with relevance to the Site are:

- Native hedgerows;
- amphibians;
- reptiles; and
- terrestrial mammals.

Appendix 2. Photographs







Legend

Photo 1. Unmanaged neutral grassland, south of Site

Photo 2. Seasonally wet area, south-east corner of Site

Photo 3. Grazed modified grassland, north of Site

Photo 4. Dense bramble scrub, north-west of Site

Photo 5. Mixed scrub, north-east of Site

Photo 6. Willow scrub, south-east of Site







Land off Central St, Holmewood

Appendix 2: Site Photographs

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Legend

Photo 7. Native hedgerow, southern boundary

Photo 8. Hard-standing for vehicle parking and turning, site entrance

Photo 9. Storage shed, site entrance

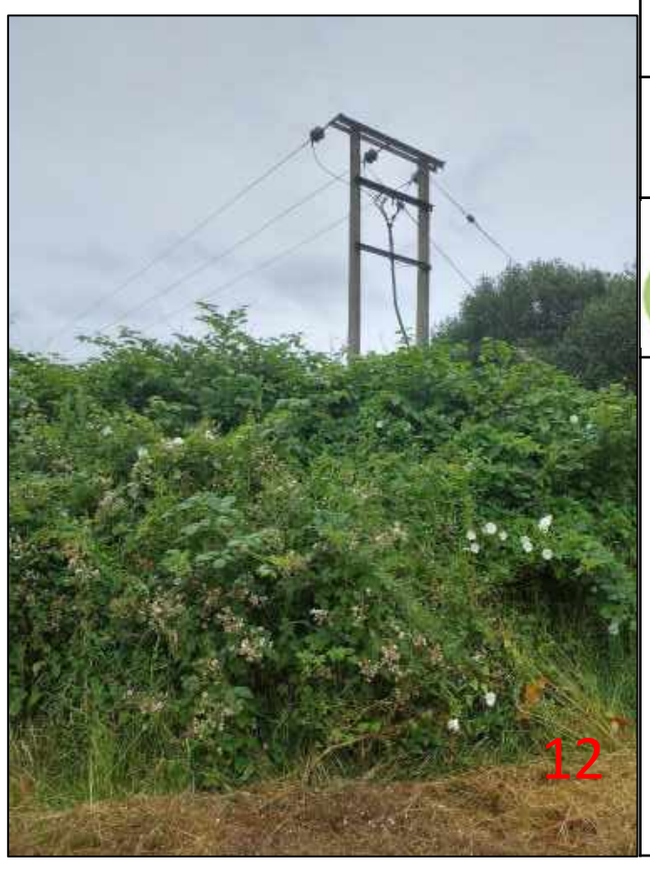
Photo 10. Line of trees, eastern boundary of Site.

Photo 11. P1: Waterbody within land to the south-east of the Site

Photo 12. TN1: Stand of Japanese Knotweed, west of Site







Land off Central St, Holmewood

Appendix 2: Site Photographs

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Appendix 3. Plant Species List

Table A3.1 - Plant species identified within the Site.

Common Name	Scientific Name	Habitat (UK Habitat Classification Code)							
		g3c	g4	h3d	h3h	h3	h2a	u1b	w1g6
Field maple	*Acer campestre*								F
Common bent	*Agrostis capillaris*	F	O						
Meadow foxtail	*Alopecurus pratensis*	O							
Cow parsley	*Anthriscus sylvestris*	O	R						
False oat grass	*Arrhenatherum elatius*	F	O						
Common knapweed	*Centaurea nigra*	O							
Creeping thistle	*Cirsium arvense*	F	O						
Hazel	*Corylus avellana*								O
Hawthorn	*Crataegus monogyna*	O			F		D		F
Cock's foot	*Dactylis glomerata*	O	F						
Tufted hairgrass	*Deschampsia cespitosa*	F							
Common couch	*Elytrigia repens*	O							
Field horsetail	*Equisetum arvense*	R							
Japanese knotweed	*Reynoutria japonica*		LF						
Meadow cranesbill	*Geranium pratense*	R							
Common hogweed	*Heracleum sphondylium*	R							
Yorkshire fog	*Holcus lanatus*	A	O						
Flag iris	*Iris pseudacorus*	LA							
Soft rush	*Juncus effusus*	LF							
Hard rush	*Juncus inflexus*	LF							
Meadow vetchling	*Lathyrus pratensis*	F							
Perennial ryegrass	*Lolium perenne*	O	A						
Pineapple mayweed	*Matricaria discoidea*		O						
Watermint	*Mentha aquatica*	R							
Ribwort plantain	*Plantago lanceolata*		R						
Greater plantain	*Plantago major*	R	R						
Rough meadow grass	*Poa trivialis*	O							
Knotgrass	*Polygonum aviculare*		O						
Creeping cinquefoil	*Potentilla reptans*	LA							
Selfheal	*Prunella vulgaris*	O							
Plum	*Prunus domestica*								O
Blackthorn	*Prunus spinosa*				F				F
Bracken	*Pteridium aquilinum*	LF							
Pendunculate oak	*Quercus robur*								O
Creeping buttercup	*Ranunculus repens*	O	O						
Bramble	*Rubus fruticosus*	F	O	D	F				A

Common Name	Scientific Name	Habitat (UK Habitat Classification Code)							
		g3c	g4	h3d	h3h	h3	h2a	u1b	w1g6
Common sorrel	*Rumex acetosa*	O							
Curled dock	*Rumex crispus*	O	O		F				
Broadleaved dock	*Rumex obtusifolius*	O	O						
Elder	*Sambucus nigra*			O			O		F
Willow	*Salix sp.*	O		O		D			
Common ragwort	*Senecio jacobaea*	O	O						
Perennial sow thistle	*Sonchus arvensis*		R						
Steeple bush	*Spiraea douglasii*								R
Dandelion	*Taraxacum officinale*		R						
White clover	*Trifolium repens*		O						
Common nettle	*Urtica dioica*	O	O				F		
Tufted vetch	*Vicia cracca*	F							

Each habitat is defined by its associated UKHab code with the relative species abundance (where identified) classified by the DAFOR scale: D = Dominant; A = Abundant; F = Frequent; O = Occasional; & R = Rare. Where species are not widely distributed across the habitat, abundance may be defined by the prefix 'L' to describe local abundance.

Appendix 4. Great Crested Newt Surveys

Methodology

Habitat Suitability Index (HSI) Assessment

Ponds 1 (P1 in Figure 3) was subject to a HSI assessment to determine their suitability to support great crested newts. All survey work was undertaken in accordance with industry good practice guidelines (CIEEM, 2018; Oldham *et al*., 2000).

A series of ten factors were given a rating by the surveyors. A simple equation was then used to calculate an overall HSI score for each pond. HSI scores give an indication of whether the pond is likely to support newts:

HSI	Pond Suitability
<0.5	poor
0.5 – 0.59	below average
0.6 – 0.69	average
0.7 – 0.79	good
>0.8	excellent

Please note that the HSI is only a measure of habitat suitability. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. However, the system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or any pond with a low score will not do so.

eDNA Water Sampling

eDNA water sampling was carried out at Pond 1 in the afternoon of the 27th June 2023. Kits produced by SureScreen Scientifics Ltd were used for the eDNA survey. Their instructions for taking the samples were modified from Biggs *et al*. (2014) and were carefully followed. Prior to being returned to SureScreen for analysis, the water samples were stored overnight in a fridge at <5°C.

Results

Habitat Suitability Index (HSI) Assessment

The results of the HSI assessment are provided in Table A4.1. Pond 1 was assessed as below-average suitability for great crested newt.

Table A4.1 - Habitat Suitability Index (HSI) Results for Pond 1.

Criteria	Description	Pond 1	
		Multiplier	Result
SI_1	Location	1	Zone A: Optimal
SI_2	Pond Area	0.93	1207 m^2
SI_3	Permanence	1	Dries no more than two years in ten or only in drought.
SI_4	Water Quality	0.01	Bad – Water too polluted for eDNA sampling
SI_5	Shade	1	50% margin shaded
SI_6	Waterfowl	1	No evidence of waterfowl impact
SI_7	Fish	1	Water levels were too low to support fish populations at the time of survey
SI_8	Pond Count[2]	0.4	A single pond was identified within 1 km

Criteria	Description	Pond 1	
		Multiplier	Result
SI_9	Terrestrial Habitat	1	Surrounding grassland and scrub offers good opportunities for foraging and shelter and covers more than 75% of the available area.
SI_{10}	Macrophyte Cover	0.9	High abundance of bulrush present
Assessment Result[1]			**0.57 (Below average)**

[1]Calculated by (SI1 x SI2 x SI3 x SI4 x SI5 x SI6 x SI7 x SI8 x SI9 x SI10)1/10
[2]Ponds within 1 km not obstructed by dispersal barrier (Roads, Major Watercourses)

eDNA Water Sampling

Pond 1 returned an inconclusive eDNA survey result as the sample failed an inhibition test. This is thought to have occurred as the water levels were extremely low during sampling, increasing the concentration of pollutants and preventing the detection of GCN DNA. The technical report from SureScreen Scientifics Ltd is included at the end of this appendix.

Folio No: E18614
Report No: 1
Purchase Order: 1074
Client: Envance UK
Contact: Paul Wolstenholme

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (TRITURUS CRISTATUS)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 03/07/2023
Date Reported: 13/07/2023
Matters Affecting Results: Inhibited

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
4020	Holmewood - Pond 1	SK 43291 65325	Pass	Pass	Fail	Inconclusive	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Gabriela Danickova **Approved by:** Jennifer Higginbottom

Appendix 5. Bat Surveys

Methodology

Preliminary Roost Assessment

A ground-based preliminary roost assessment of all trees and structures within the Site was undertaken in accordance with best practice guidance (Collins, 2016). This was done during the Phase 1 habitat survey.

All structures were visually examined for the presence of potential roost features such as cavities and/or crevices created by damaged/lifted roofing materials, missing brickwork and mortar, amongst other features that may provide access to suitable roosting space. Similarly, all trees were examined for potential roost features that may form as a result of either disease, decay and/or damage (i.e. animal holes, knot holes, callus rolls, wounds and other similar features). Close-focusing binoculars were used where necessary and any evidence of roosting bats, including live or dead bats, droppings, and staining due to fur oils, was noted.

An individual structure or tree may support features of potential interest to roosting bats. It is not always possible to confirm the usage of a feature as bats are transient in nature and may be present on one day, with no evidence of occupation present on the next. As such, any structure and/or tree has been assigned a defined category of roosting potential, based on the potential roosting features present, their associated characteristics (size, shelter, protections, conditions) and the surrounding habitat. Categories of roosting potential are defined as follows:

- **Negligible**: a structure or tree with no suitable features present that are likely to support roosting bats.
- **Low**: a structure or tree with suitable features present that could potentially support low numbers of opportunistically roosting bats but are unlikely to be occupied on a regular basis and/or by a significant number of individual bats.
- **Moderate**: a structure or tree with suitable features with the characteristics to provide regular shelter for low numbers of individual bats but are unlikely to support a roost of high conservation status.
- **High**: a structure or tree with suitable features with the characteristics to support large numbers of bats on a regular basis, for potentially longer periods of time.

Bat Activity Surveys

Bat activity surveys were undertaken by Envance ecologists between August – September 2023. The objective of the surveys was to collate current data on the use of the Site by local bat populations, in order to produce an accurate assessment of the potential ecological impact of the Development. The following data can be derived from the surveys undertaken:

- the assemblage of bat species using the Site;
- the relative frequency with which the Site is used by different species; and
- the nature of activity for different bat species, for example foraging and commuting.

Two dusk-walked transects were undertaken in August and September. Survey conditions are summarised in Table A5.1.

The transect route from each survey is outlined in Figure A5.1 and was designed to cover all foraging areas of the Site. All surveys were led and assisted by competent surveyors with suitable ecological experience. Ten 'listening points' were designated at regular intervals along the route. As per good practice guidelines (Collins,

2016), the transect route began at sunset and was walked continuously for a minimum of two hours. For each bat pass observed by surveyors during transect surveys, the species, location, behaviour and flight path were all recorded. All sound files were further analysed with Kaleidoscope Pro Sound Analysis (Wildlife Acoustics 2023) software to confirm species identification and highlight any observations that may have been missed.

Table A5.1 - Bat Activity Transect Survey Conditions

Date	Surveyors	Equipment	Weather	Timings
10.08.2023	Daniel Lines & Pheobe Bridges	Anabat Scout (Titley Scientific)	Start: 21°C, 30% cloud, still (Beaufort Scale (BF): 0), dry End: 19°C, 40% cloud, still (BF 0), dry	Start: 20:45 Sunset: 20:45 End: 22:47
18.09.2023	Daniel Lines & Pheobe Bridges	Anabat Scout (Titley Scientific)	Start: 13°C, 65% cloud, light wind (BF 2), dry End: 13°C, 65% cloud, light wind (BF 2), dry	Start: 19:15 Sunset: 19:15 End: 21:15

To supplement data collected during each walked transect, a static monitoring device was deployed in a strategic location within the Site (Figure A5.1) and left to record for a minimum of five consecutive nights per month throughout August - September. The detector was programmed to begin recording bat activity thirty minutes before sunset and then throughout the night until thirty minutes after sunrise. Data collected during the static monitoring period has been analysed through Kaleidoscope Pro Sound Analysis software. Table A5.2 details the dates, location, and equipment used during each static monitoring period.

Table A5.2 - Static Monitoring Periods

Monitoring Period	Equipment	Location (BNGR)	Sunset/Sunrise Times
10.08.2023 – 15.08.2023	Song Meter SM4BAT FS (Wildlife Acoustic)	SK 43145 65526	20:43-20:35/05:38-05:45
19.09.2023 – 24.09.2023		SK 43145 65526	19:12-19:02/06:47-06:54

For the assessment of the site value as foraging and commuting habitat for bats, the methodology defined by Wry *et al.* (2010) has been applied. This methodology assigns a level of value for suitable foraging and commuting habitats based on the rarity of the species observed, the abundance of bats present, the availability of potential roosts and the characteristics and complexity of the surrounding habitats. The scoring system for the site value assessment is detailed in Table A5.3. Overall site value is determined from the highest score obtained.

Table A5.3 - Scoring System for Valuing Commuting and Foraging Bats (Wray *et al.* 2010)

Geographic frame of reference	Score
International	>50
National	41 – 50
Regional	31 – 40
County	21 – 30
District, local or parish	11 – 20
Not important	1 – 10

Results

Preliminary Bat Roost Assessment

Trees

All trees present within the site were assessed to support negligible features for bat roosting. With more significant woodland areas in the surrounding environment and the absence of suitable roosting features, it is considered unlikely that tree roosting bats would be roosting within the trees present within the Site.

Buildings

Only a single structure was identified within the Site. This pertained to a storage shed present in the north east of the Site (Figure 4). The shed appeared to be uninsulated and subject to regular disturbance due to its use as car storage. No signs of any bat roosting were observed during the survey and although bats may be able to access the internal structure of the shed, no suitable sheltered space is likely to be present that could support roosting bats without significant disturbance. Therefore, the shed is considered to have negligible potential for roosting bats.

Bat Activity Surveys: Transect

Four species were recorded over both transect survey visits. Common pipistrelle and *Myotis* species (thought to be one of the 'WAB' *Myotis* species: whiskered bat *M. mystacinus;* alcathoe bat *M. alcathoe;* or Brandt's bat *M. brandtil*) were recorded during both surveys, with soprano pipistrelle and noctule recorded during the summer visit only. Common pipistrelle was the most frequently recorded species, with only occasional passes of other species observed during the walked transect. The total number of bat passes recorded during each survey for each of the four species are shown in Figure A5.1.

Heat map analysis of activity over all three surveys was strongly focused along the line of trees on the eastern boundary and native hedgerow along the southern boundary, with lesser activity observed within the site itself. As expected, the majority of the activity distribution pertained to common pipistrelle, with noctule and soprano pipistrelle only recorded commuting through/over the Site at listening points 2 and 4, and 4 and 5, respectively.

More frequent activity from *Myotis* species was observed along the southern and eastern boundary of the Site. *Myotis* bats are strongly associated with woodland habitats, such as the woodland areas that surround the Site, but will opportunistically use connected 'woody' habitats in open areas for foraging and commuting, as appeared to be observed during surveys. Very limited activity from *Myotis* species was, however, recorded within the Site itself. Activity appeared to be greater during the summer period, with higher numbers of passes recorded for all species.

A greater 'spread' of activity was also observed during the summer, whereas during the autumn survey activity appeared to be more focussed at certain locations within the Site. This may indicate that a greater number of bats were present during the summer survey, whereas comparatively the activity recorded during the autumn visit may have pertained to only a few individual bats. Activity 'hotspots' are highlighted in Figure A5.2. & A5.3. Full results are provided in Table A5.3.

Bat Activity Surveys: Static Monitoring

A total of 5513 bat passes were recorded during static monitoring surveys. These were from common pipistrelle, soprano pipistrelle, noctule, brown long-eared bat and *Myotis* species (In contrast to transect surveys, all recordings most closely matched the echolocation patterns of Daubenton's bat *M. daubentonii*). Peak daily counts for each season were 1658 and 2098 for summer and autumn respectively. Figure A5.4 illustrates the peak daily bat pass frequency of each species over each monitoring period. Full detailed results are provided in Table A5.4.

The data gathered during static monitoring surveys appears to demonstrate relatively high levels of bat activity within the Site. However, from observations made during the transect surveys, only relatively low numbers of individual bats were observed foraging in the area surrounding the static location, suggesting that the high bat pass frequencies recorded by the static recording device were heavily skewed by foraging activity of a few individuals, rather than a significant abundance of bats. In addition to this, the majority of passes recorded pertained to the days of greatest activity, accounting for 61% and 75% of the recordings during the summer and autumn survey periods respectively. Therefore, static recordings in this case can only be used to infer the assemblage of bats present within the site, along with the frequency and timing of their occurrence during each season.

The assemblage was overwhelmingly dominated by common pipistrelle during the monitoring periods (96% of recordings), with all other species recorded relatively infrequently in comparison (soprano pipistrelle, noctule, brown long-eared bat and *Myotis* species represented 0.58%, 1.14%, 0.65% & 1.34% of recordings respectively). Peak activity levels within the Site were relatively consistent across both survey periods. All species were recorded during both survey periods, with the exception of soprano pipistrelle which was recorded during the summer period only.

Figure A5.5 highlights the peak activity levels over the night-time period during each season for each species. Common pipistrelle showed consistent activity over the night-time period for both summer and autumn, however, defined peaks in activity for the summer season did not occur until around an hour after sunset. This may indicate that more significant summer roosts are not present in close vicinity of the Site (as pipistrelle bats typically emerge up-to 30 minutes after sunset), with only smaller summer and transitional roosts likely to be present in the immediate surrounding area for this species.

Soprano pipistrelle was only recorded in small numbers during the summer survey, appearing 1 – 2 hours after sunset and disappearing at least an hour before sunrise. This would indicate that this species is likely to have travelled some distance from their roost before arriving at the Site.

Noctule are also an early emerging species, typically emerging around sunset. Timings of their presence within the Site therefore also indicated that they may have travelled some distance from roosts before arriving on-site, arriving no earlier than approximately 20 – 30 minutes after sunset during both survey periods. More sustained activity from this species during the summer period suggests some foraging activity in the nearby area, however, not in any significant numbers. Autumn survey results for this species are consistent with transect survey observations, appearing to be commuting over the site on route to and from more valuable foraging areas.

Brown long-eared bat and *Myotis* species are both later emergers, typically emerging around an hour after sunset. This is consistent with the timing of these species during both survey periods, with both first recorded within an hour of sunset indicating roosting in the immediate surrounding area. Low levels of activity were, however, observed during both survey periods, with very few recordings made during the autumn survey period.

Conclusion

The survey results indicate that the Site is likely to support bat activity over all seasons within the activity period, with similar levels of activity observed during both survey periods. However, from the results of the transect surveys, it is considered that only relatively low numbers of individual bats are likely to have been present, utilising the woodland edge and tree lines present along the eastern, western, and southern boundaries of the Site for both foraging and commuting. In addition, the assemblage is almost completely dominated by common pipistrelle, the most common UK bat species. This species currently has an increasing population trend, thought to be due to its ability to adapt to urban environments. Therefore, it is considered the habitats present within and adjacent to the Site are unlikely to represent a significant foraging resource of high conservation concern.

The timings of recordings do, however, suggest the potential for low numbers of small roosts of common pipistrelle, brown long-eared bats and *Myotis* species in the surrounding area. No potential roosting features have been identified within the Site and it is considered highly unlikely that any bat will be roosting within the Site itself, however, the surrounding woodland areas and residential buildings may have the potential to support such roosts. As such, boundary habitats are considered to have some value for foraging and commuting bats, including for both common species (common pipistrelle, brown long-eared bat and Daubenton's bat) and uncommon, but widespread *Myotis* species ('WAB' species group).

Site Value Assessment

Table A5.4 details the results of the site value assessment for both foraging and commuting bats. For all species, the site was assessed to support local value for foraging and commuting bats, with the site being of greatest importance to *Myotis* sp. bats.

Table A5.4 - Results of the Site Value Assessment applying the Wray *et al.* (2010) Methodology.

Species	Rarity (score)	Number of bats	Roost Potential (score)	Habitat Characteristics/ Complexity (score)	Site Value (total score)
Common Pipistrelle	Common (2)	Individual bats (5)	Potential for a small number in surrounding environment (3)	Isolated edges of woodland blocks, well-grown hedgerows and tree lines not forming complex network in wider area (3).	Local value (13)
Soprano Pipistrelle	Common (2)	Individual bats (5)	None (1)		Local Value (11)
Brown Long-eared Bat	Common (2)	Individual bats (5)	Potential for a small number in surrounding environment (3)		Local value (13)
Noctule	Uncommon (5)	Individual bats (5)	None (1)		Local value (14)
Myotis Sp.	Uncommon (5)	Individual bats (5)	Potential for a small number in surrounding environment (3)		Local value (16)

Bat Activity Survey Raw Data

Table A5.5 - Bat Activity Transect Results:
Frequency of bat passes recorded for each species at each section of the transect route.

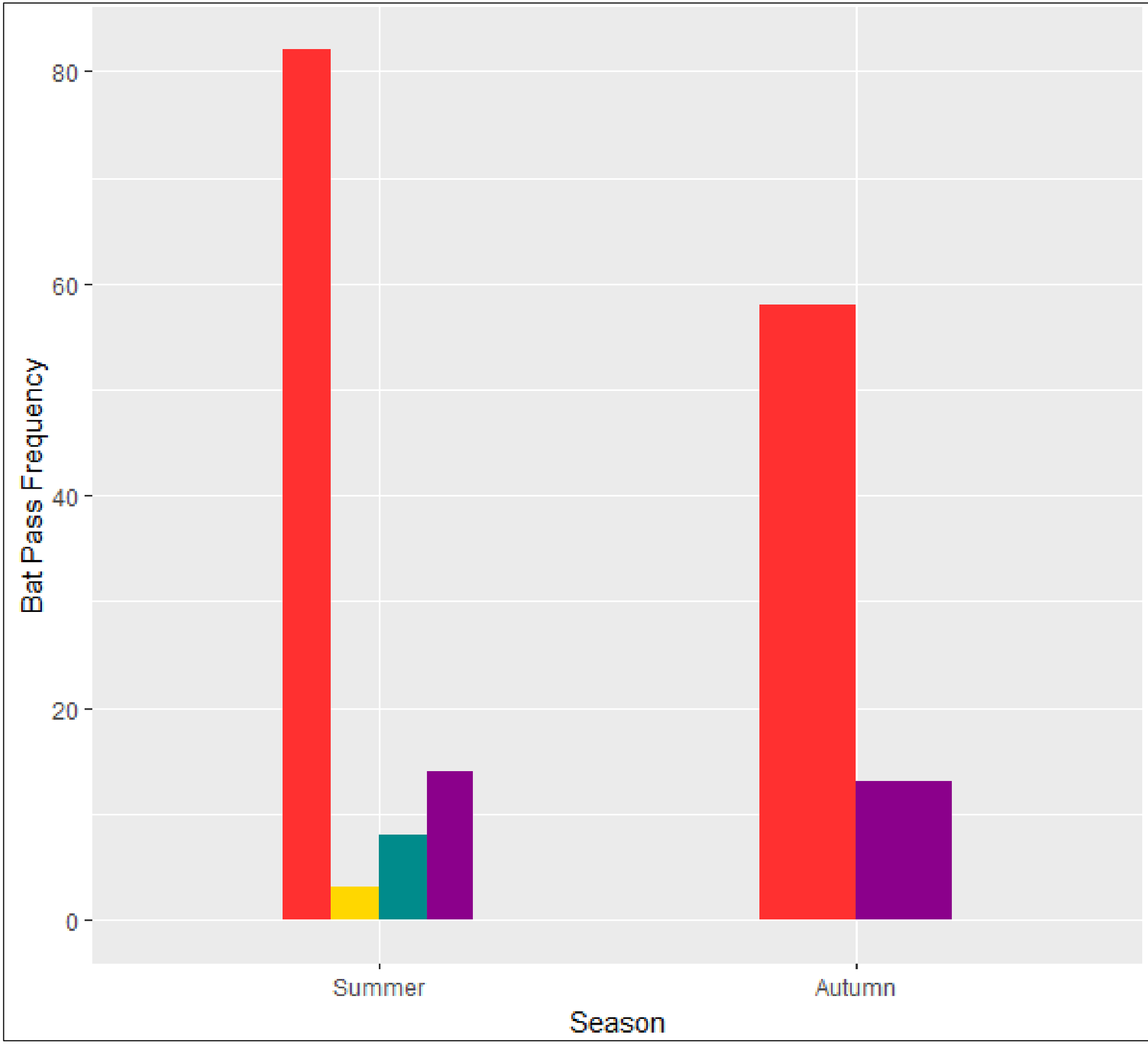
Listening Point/Walk	Summer				Autumn	
	Species Recorded					
	Common Pipistrelle	Soprano Pipistrelle	Noctule	Myotis Sp.	Common Pipistrelle	Myotis Sp.
L1	3					
W1						
L2	2		2		2	
W2	2					
L3	2					
W3	3					
L4	3	1	5			
W4	4					
L5	1			2		
W5					17	
L6						
W6	13				9	13
L7	11			1		
W7	2			3	1	
L8	3			6	1	
W8	20			3	3	
L9					1	
W9	7	2	1			
L10					23	

Table A5.6 - Static Monitoring Survey Results
Bat passes recorded for each species during each night of the static deployment periods. Date refers to the starting date of each night time recoding period. BLE = Brown Long-eared Bat.

Date	Season	Species Recorded					Total
		Common Pipistrelle	Soprano Pipistrelle	Noctule	Myotis Sp.	BLE	
10/08/2023	Summer	**1584**	15	**27**	**25**	7	**1658**
11/08/2023	Summer	484	**16**	5	16	6	527
12/08/2023	Summer	216	1	1		1	219
13/08/2023	Summer	218		14	13	**16**	261
14/08/2023	Summer	34			2		36
19/09/2023	Autumn	502			**8**		510
20/09/2023	Autumn	116		6	7		129
21/09/2023	Autumn	37		**8**		**4**	49
22/09/2023	Autumn	23		2		1	26
23/09/2023	Autumn	**2094**			3	1	**2098**

Figure A5.1 - Bat Pass Frequency Per Transect Survey

Frequency of bat passes recorded for each species over each transect survey visit.



Land off Central Street, Holmewood

Bat Pass Frequency Per Transect Survey

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Figure A5.2 - Bat Transect: Overview

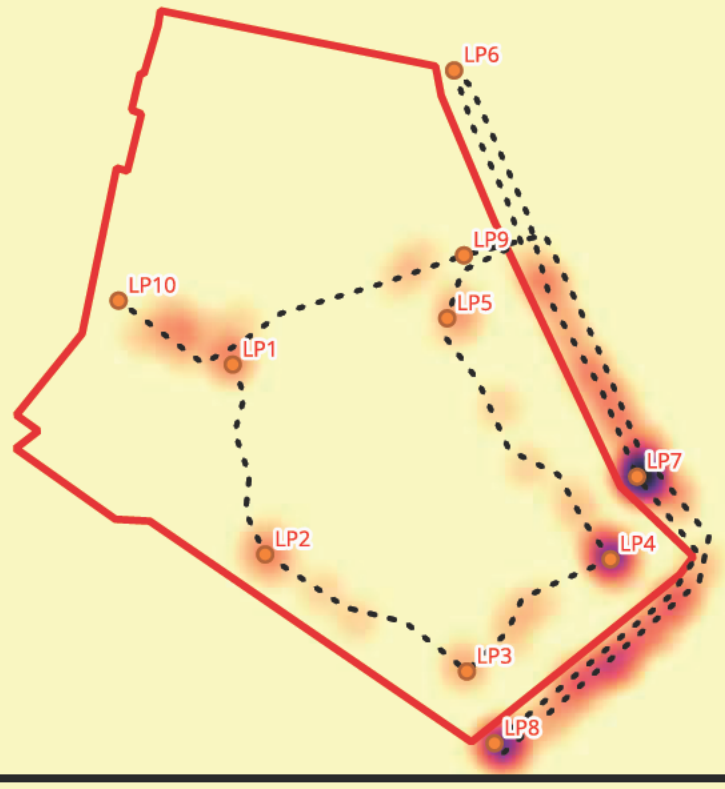
Transect heatmaps for each transect survey: (a) Overview; (b) Summer; (c) Autumn

(a) Overall Distribution of Activity

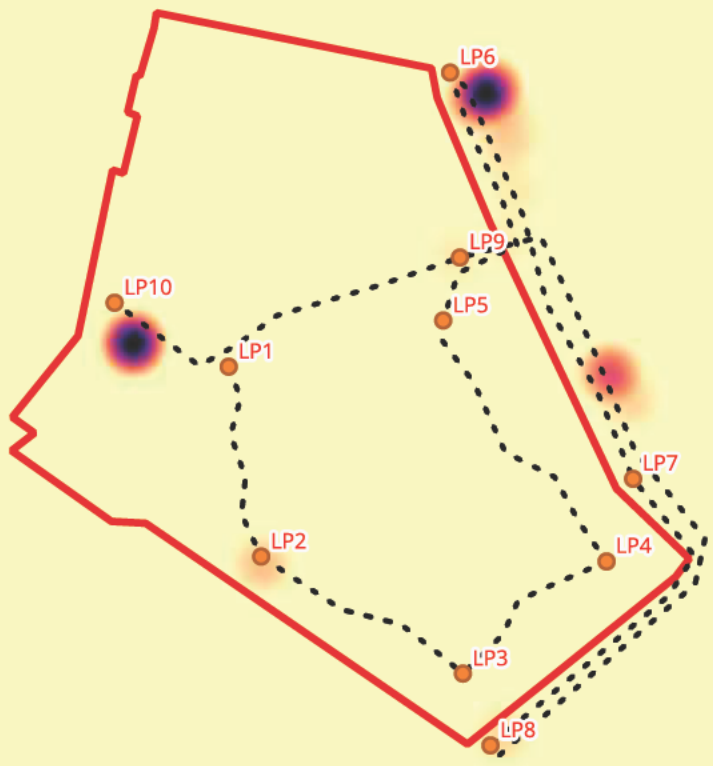


N

(b) Summer Distribution



(c) Autumn Distribution



Legend

Site Boundary
Transect Route
Listening Points

Bat Activity Levels

Low
High

0 50 100 m

Bat Transect Maps	
Land off Central St, Holmewood	
Date	October 2023
Scale	1:2000@A3
Drawing Ref:	0316/BTM

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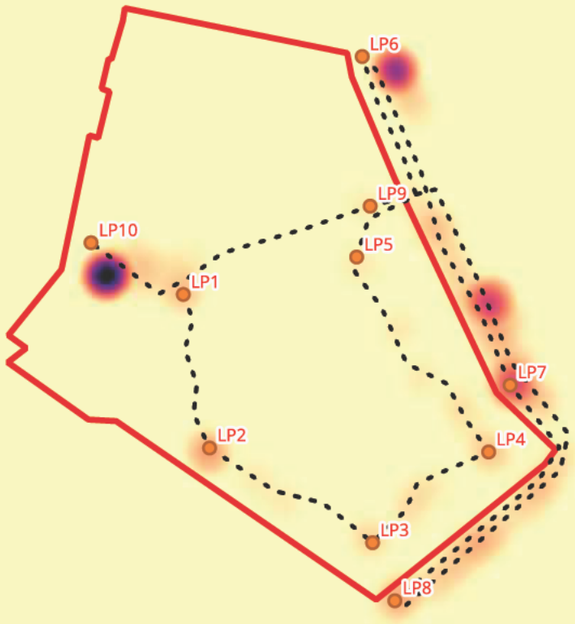
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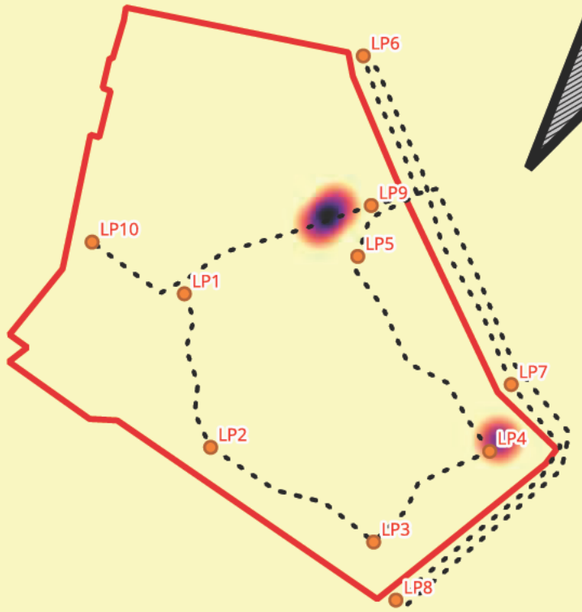
Figure A5.3 - Bat Transect: Species Distribution

Transect heatmaps for each species recorded: (a) Common Pipistrelle; (b) Soprano Pipistrelle; (c) Noctule; (d) *Myotis* Species

(a) Common Pipistrelle



(b) Soprano Pipistrelle



N

Legend

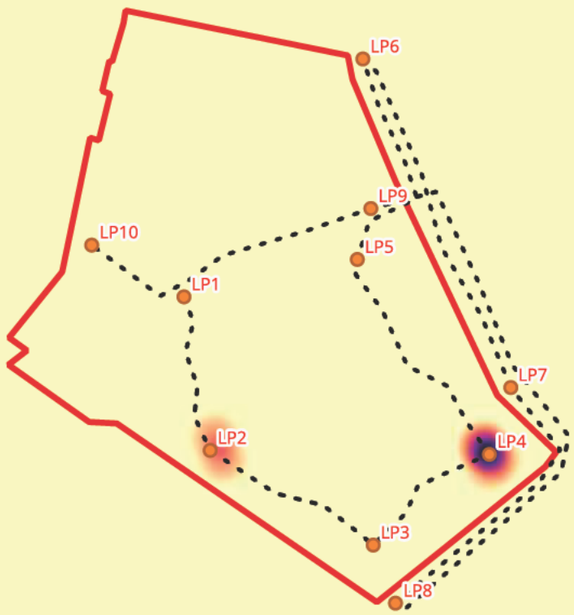
- Site Boundary
- Transect Route
- Listening Points

Bat Activity Levels

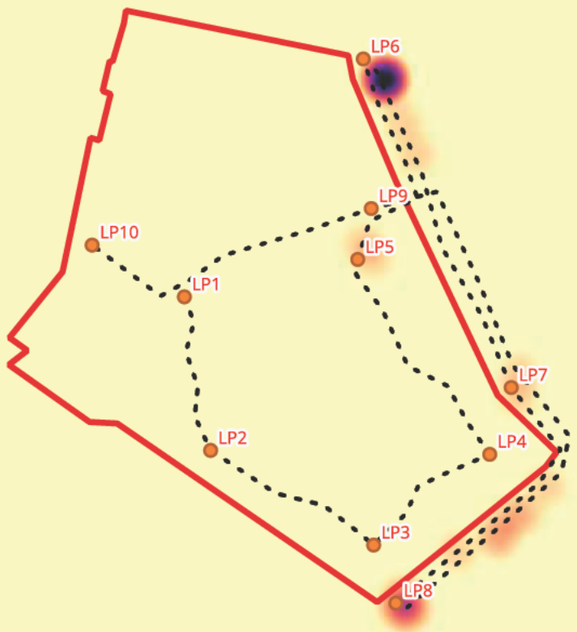
- Low
- High

0 50 100 m

(c) Noctule



(c) Myotis Species



Bat Species Distribution

Land off Central St, Holmewood

Date	October 2023
Scale	1:2000@A3
Drawing Ref:	0316/BSD

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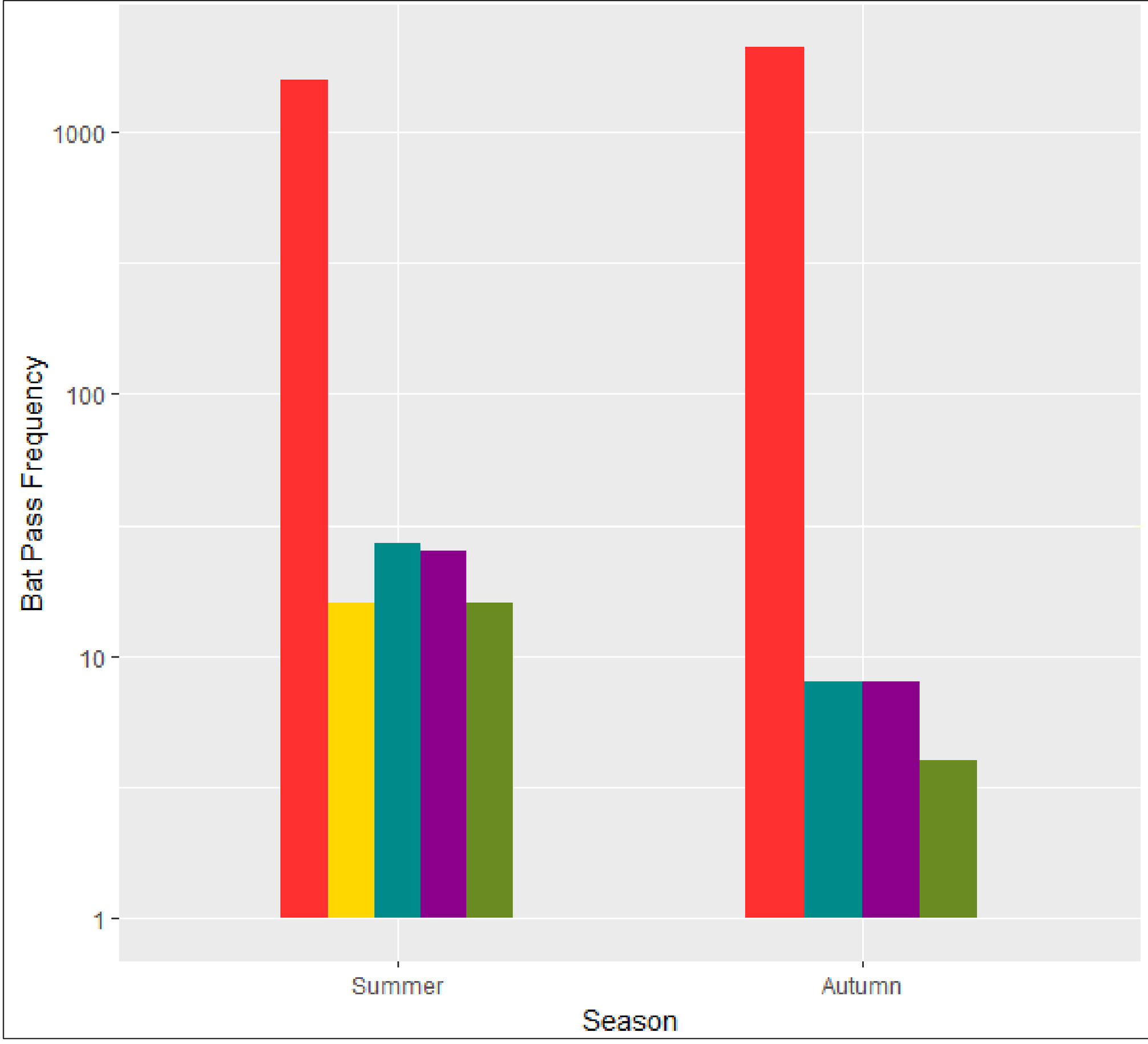
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Figure A5.4 - Peak Daily Bat Pass Frequency Per Season

Peak daily frequency of bat passes recorded for each species from static monitoring for each season.



Land off Central Street, Holmewood

Peak Daily Bat Pass Frequency Per Season

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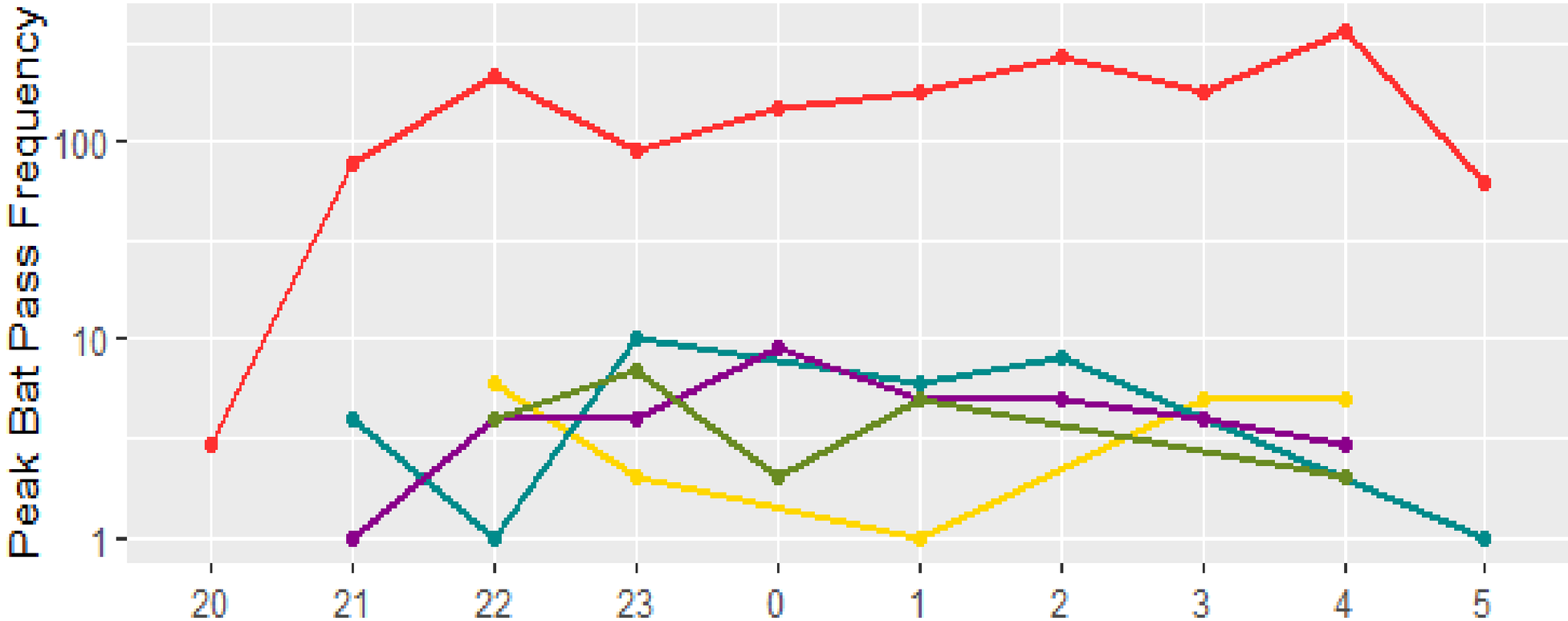
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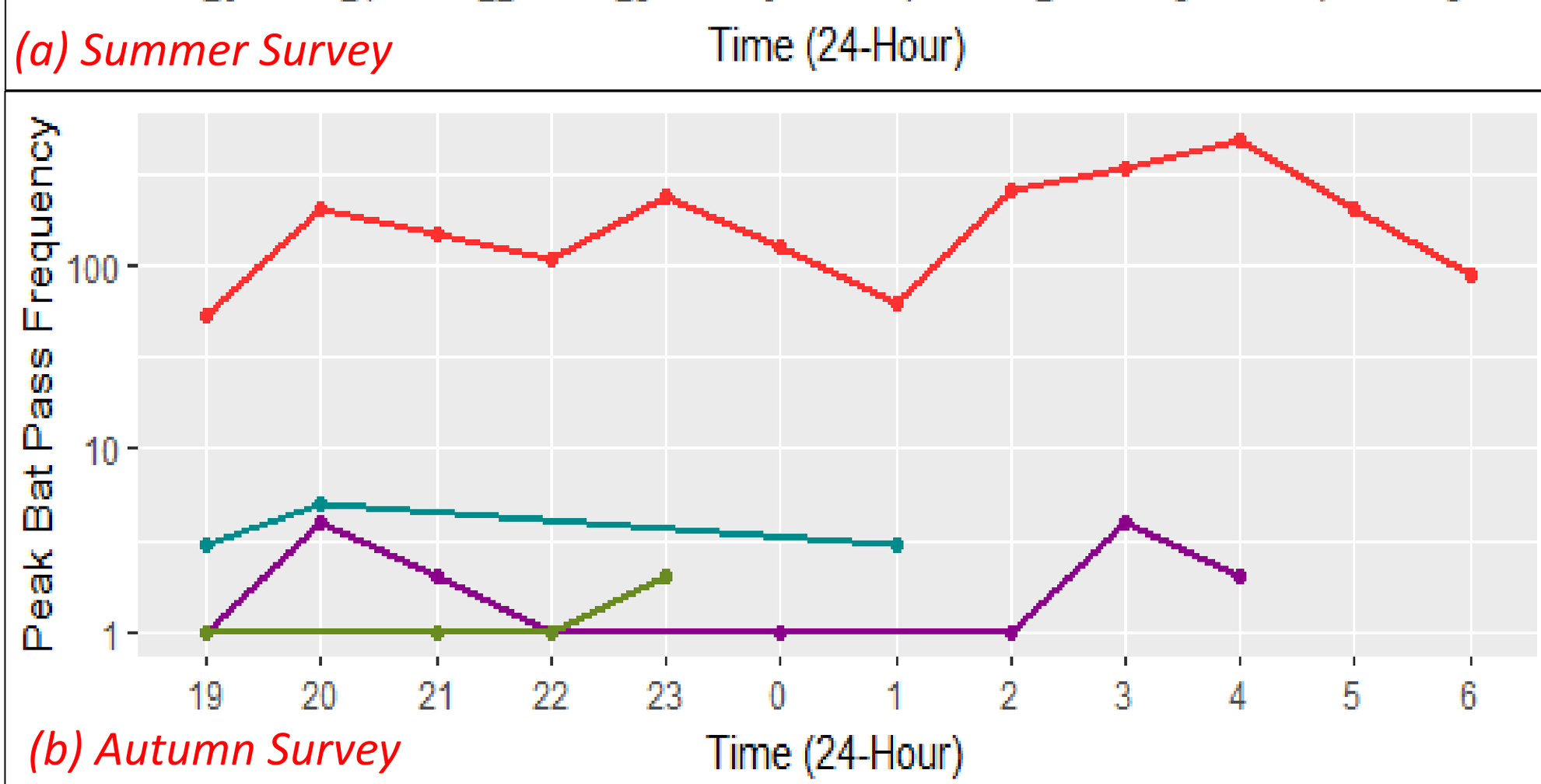
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Figure A5.5 - Peak Daily Bat Activity Timings Per Season

Peak frequency of bat passes recorded for each species over each hour during each season: (a) Summer; (b) Autumn



(a) Summer Survey



(b) Autumn Survey

Bat Species

- Common Pipistrelle
- Soprano Pipistrelle
- Noctule
- Myotis Species
- Brown Long-eared Bat

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Activity Timings by Bat Species

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Appendix 6. Bird Species Recorded within 2 km of Site

Recent records of bird species from within 2 km of the Site. Red = species listed as of 'red' conservation concern within the Birds of Conservation Concern 5 (BOCC5; Stanbury *et al.* 2021). Amber = species listed as of 'amber' conservation concern with the BoCC5. Green = species listed as of 'green' conservation concern within the BoCC5. Sch1 = species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Sch9 = invasive non-native species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). S41 = species listed as of Principal Importance under Section 41 of the NERC Act 2006.

Table A6.1 - Bird species recorded within 2 km of the Site

Common Name	Scientific Name	Status
Kingfisher	*Alcedo atthis*	Sch1, Amber
Gadwall	*Anas strepera*	Amber
Swift	*Apus apus*	Amber
Canada goose	*Branta canadensis*	Sch9
Woodpigeon	*Columba palumbus*	Green
Grey partridge	*Perdix perdix*	S41, Red
Wren	*Troglodytes troglodytes*	Green
Barn Owl	*Tyto alba*	Sch1, Green
Lapwing	*Vanellus vanellus*	S41, Red

Appendix 7. Reptile Surveys

Methodology

Presence / likely Absence Surveys

Reptile surveys were undertaken by Envance in September and October 2023. All surveys were undertaken in accordance with best practice guidelines (Froglife 1999; 2016) and included seven survey visits within suitable weather conditions (12 -20˚C, full/partial sun, dry (with the exception of survey visit 6; *See Limitations Section 2.8*)). Artificial refugia in the form of roofing felt, cut to a size of 0.5 m x 0.5 m were placed around the Site at a minimum density of 10 per hectare, positioned in unshaded areas around suitable habitat. Refugia were left to 'bed-in' for a period of at least 1 week prior to the first survey visit.

During each visit, a Site walkover was conducted around suitable habitat searching for any individual reptiles and/or field signs of presence (such as discarded reptile skins). During the search, all suitable refugia were checked for sheltering individuals, including any pre-existing materials. Table A6.1 details the timings, surveyors, and weather conditions for the surveys. Artificial Refugia locations are highlighted within Figure A6.1.

Table A7.1 - Reptile Survey Conditions

Date	Surveyors	Weather	Timings	Survey Notes
21.09.2023	Stuart Robinson	15˚C, 0% cloud, no wind (Beaufort Scale (BF): 0), dry	Start: 10:36; End: 11:23	Optimal weather conditions during the survey after a significant period of heavy rain.
23.09.2023		14˚C, 10% cloud, light wind (BF 2), dry	Start: 10:30; End: 11:30	Optimal weather conditions during the survey after a period of rain.
25.09.2023		13˚C, 0% cloud, gentle breeze (BF 3), dry	Start: 09:30; End: 11:00	Heavy rain overnight and forecast for later in the day.
29.09.2023		18˚C, 20% cloud, light breeze (BF 2), dry	Start: 16:50; End: 17:50	Optimal weather conditions during the survey.
03.10.2023		13˚C, 50% cloud, gentle breeze (BF 3), dry	Start: 10:40; End: 11:40	Optimal weather conditions during the survey.
06.10.2023		21˚C, 60% cloud, moderate breeze (BF 3), dry	Start: 15:00; End: 16:00	Warm weather conditions during the survey after a period of overcast weather. Moderate breeze with gusts.
12.10.2023		15˚C, 60% cloud, light breeze (BF 2), dry	Start: 14:05; End: 15:05	Warm after a cool and cloudy morning; heavy rain during the previous night.

Results

No observations of any reptile species were observed during the surveys. Site conditions have changed since the original survey visit, with the unmanaged grassland habitat now grazed by a small number of ponies. In addition to this, a significant presence of domestic cats was observed within the Site during surveys. With this disturbance and risk of predation, it is considered highly unlikely that any reptiles would currently be present within the Site.

Figure A7. 1 - Artificial Reptile Refugia Locations



Legend

Site Boundary

Reptile Refugia Locations

0 25 50 m

Land off Central St, Holmewood

Reptile Refugia Locations

Date	October 2023
Scale	1:750@A3
Drawing Ref:	0316/RRM

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Appendix 8. Biodiversity Net Gain Assessment

Methodology

Baseline

The biodiversity baseline assessment used the Statutory Biodiversity Metric (SBM) calculation tool (DEFRA 2024). Habitat measurements were made using digital mapping software (QGIS Geographic Information System version 3.28). Habitat condition was assessed according to the criteria outlined within the SBM methodology. The baseline survey and condition assessment were undertaken in combination with the UKHab classification survey, by Envance ecologist Paul Wolstenholme (ACIEEM) and Natasha Rajpurohit on the 27th of June 2023.

Information derived from the desk study was used to inform the biodiversity calculation in relation to the strategic significance of the Site. Habitats are defined as strategically significant if they are considered to be 'locally important to conservation' **and** achieve one of the following criteria:

- are part of a statutory or non-statutory designated site;
- are listed in the Priority Habitat Inventory;
- are included within river basin management/catchment plans and/or;
- are part of a locally designated wildlife corridor or any other local strategic area.

Habitats failing all these criteria are typically classified as of 'low strategic significance'. However, if they are judged to provide significant ecological connectivity and or value to the local area, they may be assigned an intermediate strategic significance status and be classified as 'ecologically desirable'.

Using SBM, habitat values are calculated based on whether habitats occur commonly or whether they are rare (habitat distinctiveness), their area (ha) (or length (km) for linear habitats such as hedgerows, rivers and streams), condition, and strategic significance. This gives a pre-development value in Habitat Units (HU), Hedgerow Units (HeU) and/or Watercourse Units (WU).

Baseline Survey Results

Habitat Classification

Baseline habitats identified within the survey area are listed below in SBM format, followed by the corresponding UKHab codes.

- Other neutral grassland **(g3c5 10 14; g3c7 10; g3c8 12 501)**
- Modified grassland **(g4 103)**
- Bramble scrub **(h3d)**
- Mixed Scrub **(h3h)**
- Willow scrub **(h3)**
- Native Hedgerow **(h2a)**
- Developed land; sealed surface **(u1b; u1b6)**
- Line of Trees **(w1g6)**
- Rural trees **(w1g6)**

Strategic Significance

All habitats present within the Site are considered to have low strategic significance due to the surrounding urban environment. No areas of the Site are included within any nationally or locally designated area for wildlife conservation.

Habitat Condition Assessment

Tables A8.1 – A8.5 detail the results of the condition assessment for each habitat type according to SBM condition criteria. Condition assessments are not considered necessary for developed land; sealed surface and bramble scrub as the classifying features of these habitats do not allow them to achieve any condition greater than poor.

Grassland

Other neutral grassland

Table A8.1 - Condition assessment of the other neutral grassland within the Site.

Criteria	Description	Pass/Fail
1	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Pass
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail
3	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
4	Cover of bracken Pteridium aquilinum is less than 20% and cover of scrub (including bramble *Rubus fruticosus agg.*) is less than 5%.	Fail
5	Combined cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA4) are present, this criterion is automatically failed.	Fail
6	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type. **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	Fail
Final Assessment		**Condition**
Unmanaged, tall, tussocky grassland. Some shorter open areas are present, but not more than 20%. Invasive non-native species are present, and the grassland supports a high abundance of scattered scrub.		**Poor**

Modified grassland

Table A8.2 - Condition assessment of modified grassland within the Site

Criteria	Description	Pass/Fail
1	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (this may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.**	Fail
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for	Fail

Criteria	Description	Pass/Fail
	insects, birds and small mammals to live and breed.	
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.	**Pass**
4	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	**Pass**
5	Cover of bare ground between 1% and 10%, including localised areas, for example, rabbit warrens.	**Pass**
6	Cover of bracken is less than 20%.	**Pass**
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	**Pass**
Final Assessment		**Condition**
Poor diversity horse grazed pasture with little damage, scattered scrub, bare ground, or invasive non-native species. Fails essential criterion 1.		**Poor**

Heathland & Scrub

Scrub

Table A8.3 - Condition assessment of scrub habitats within the Site

Criteria	Description	Mixed Scrub	Willow Scrub
1	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of scrub is native, and there are at least three native woody species, with no single species comprising more than 75% of the cover.	Pass	Fail
2	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	Fail	Fail
3	There is an absence of invasive non-native plant species3 (as listed on Schedule 9 of WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Pass	Pass
4	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Fail	Pass
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Fail	Fail
Final Assessment		**Condition**	
Areas of scrub with limited age diversity and without clearings, glades, or rides. Well-developed edge present on willow scrub only.		**Poor**	**Poor**

Native Hedgerow

Table A8.4 - Condition assessment of the hedgerow within the Site

Attribute		Criteria	Description	Pass/Fail
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.	Pass

Attribute		Criteria	Description	Pass/Fail
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.	Pass
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth.	Pass
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length and no canopy gaps >5 m	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).	Fail
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: measured from outer edge of hedgerow, and is present on one side of the hedge (at least)	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedge. Undisturbed ground should be present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedge.	Pass
C2.	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles (*Urtica* spp.), cleavers (*Galium aparine*) and docks (*Rumex* spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.	Fail
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Neophytes are plants that have naturalised in the UK since AD 1500.	Pass
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.	Pass
Final Assessment				**Condition**
Outgrown hedgerow with significant canopy gaps and an abundance of nettles within ground flora.				**Good**

Woodland & Forest

Line of trees

Table A8.5 - Condition assessment of the line of trees within the Site

Criteria	Description	Pass/Fail
1	At least 70% of trees are native species.	Pass
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Fail
3	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	**Fail**
4	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing).	Fail

Criteria	Description	Pass/Fail
5	At least 95% of the trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Pass
Final Assessment		**Condition**
Mature line of native trees with significant canopy gaps. No veteran feature present and acts as a wind break for adjacent playing fields.		**Poor**

Individual trees

Rural trees

Table A8.6 Condition assessment of the medium-sized trees present within the Site

Criteria	Description	Pass/Fail
A	The tree is a native species (or at least 70% within the block are native species).	Pass
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5m wide (individual trees automatically pass this criterion).	Fail
C	The tree is mature (or more than 50% within the block are mature).	Pass
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Pass
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Fail
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Pass
Final Assessment		**Condition**
Mature native trees within the line of trees along the eastern boundary. Significant gaps in canopy present and no ecological niches observed.		**Moderate**

Baseline Biodiversity Value

Habitat types, their relative conditions and calculated biodiversity value according to the SBM are summarised below in Tables A8.7 and A8.8 Within the Site, area-based habitats generated 6.36 HU, and hedgerows generated 0.64 HeU.

Table A8.6: Baseline Area-based Habitats, Condition and Unit Scores

UKHab Code	Habitat Type	Condition	Strategic Significance	Area (ha)	Habitat Units (HU)
g3c5 10 14; g3c7 10; g3c8 12 501	Other neutral grassland	Poor	Low	1.06	4.24
g4 103	Modified grassland	Poor	Low	0.57	1.14
h3d	Bramble scrub	N/A	Low	0.108	0.43
h3h	Mixed scrub	Poor	Low	0.07	0.28
h3	Willow scrub	Poor	Low	0.003	0.01
w1g6	Rural trees	Moderate	Low	0.033	0.26
u1b 73; u1b6	Developed land; sealed surface	N/A	Low	0.06	0.00
				Total Habitat Units	**6.36**

Table A8.7 - Baseline Hedgerow Habitats, Condition, and Hedgerow Unit Scores

UKHab Code	Habitat Type	Condition	Strategic Significance	Length (km)	Hedgerow Units (HeU)

h2a	Native hedgerow	Good	Low	0.07	0.42
w1g6	Line of trees	Poor	Low	0.11	0.22
				Total Hedgerow Units	**0.64**

Local Policy

There is currently no provision in the local plan or local guidance to deliver above the statutory required 10% biodiversity net gain.

Predicted Impact of the Development

Post-Development habitats have been predicted based on designs shown in **Landscape Masterplan - Draft, DRWG No: 1613-004**. The expected land-take of the Development is expected to be 1.87 ha and is expected to include the total loss of the other neutral grassland, modified grassland, bramble scrub, mixed scrub, scattered scrub, and urban habitats. All hedgerows and trees are expected to be retained.

Table A8. 8 & 9 details the predicted post-development habitats (including approximate area and anticipated habitat condition) and their associated biodiversity value. Predicted post-development habitats are visualised in **Figure A8. 1.**

Table A8.8 - Post-Development Area-based Habitats, Condition and Unit Scores

Habitat Type	Intervention Type	Condition	Strategic Significance	Area (ha)	Habitat Units (HU)
Developed land; sealed surface	Creation	N/A	Low	1.015	0.00
Vegetated garden	Creation	N/A	Low	0.54	1.04
Other neutral grassland	Creation	Moderate	Low	0.214	1.43
Mixed scrub	Creation	Good	Low	0.061	0.51
Mixed scrub	Creation	Moderate	Low	0.0224	0.15
Introduced shrub	Creation	N/A	Low	0.024	0.05
Urban tree	Creation	Moderate	Low	0.126	0.39
Rural tree	Retention	Moderate	Low	0.033	0.26
				Total Habitat Units	**3.81**

Table A8.9 - Post-Development Hedgerow-based Habitats, Condition and Unit Scores

Hedgerow Type	Intervention Type	Condition	Strategic Significance	Length (km)	Habitat Units (HeU)
Native hedgerow	Retention	Good	Low	0.07	0.22
Species-rich native hedgerow with trees	Enhancement	Good	Low	0.19	1.37
Species-rich native hedgerow with trees	Creation	Good	Low	0.02	0.18
Species-rich native hedgerow	Creation	Moderate	Low	0.1	0.78
Non-native and ornamental hedgerow	Creation	Poor	Low	0.422	0.41
				Total Hedgerow Units	**3.15**

A biodiversity value of 3.81 HU and 3.15 HeU is predicted for the Site, post-development. This represents a biodiversity net change of -39.82% for area-based habitats, and 392.82% for hedgerow-based habitats.

Creation and Management of Post-Development habitats

Table A8.10 below details the expected creation strategies for each new habitat type, considerations for retention of existing habitats, and ongoing management of all habitat types.

Table A8.10 – Creation and management strategies of Post-Development habitats

Habitat type	Intervention type	Creation/Retention/Enhancement and Management considerations
Developed land; sealed surface	Creation	No special measures required.
Vegetated garden	Creation	Native species should be used throughout the Development.
Other neutral grassland	Creation	This is suggested in the attenuation pond to create a wet grassland sward. A native, diverse wet grassland seed mix should be used, locally sourced if available. Planting success should be reviewed in the first few years, with additional seeding undertaken in the case of species poor areas. For areas outside of the attenuation pond, a native, diverse grassland seed mix should be used, locally sourced if available. Planting success should be reviewed in the first few years, with additional seeding undertaken in the case of species poor areas. Management practices should include regular removal of injurious weeds and items such as litter.
Mixed scrub	Creation – good condition	**For the area of scrub in the southern portion of the site:** a mix of native species should be planted, which should be pruned on a rotational basis to allow a diversity of structure and age categories to establish. Edges of the scrub habitat should be managed on a low-intensity regime to allow a diversity of tall grasses and forbs to form. Rides and glade will be created to provide access to the habitat for management which will help create shelter edges. Management practices should include regular removal of injurious weeds and items such as litter.
Mixed scrub	Creation – moderate condition	**For all other areas of scrub proposed:** a mix of native species should be planted, which should be pruned on a rotational basis to allow a diversity of structure and age categories to establish. Management practices should include regular removal of injurious weeds and items such as litter. A well-developed edge and the creation of rides/glades is unlikely to be possible in the locations proposed. This is required to achieve good condition.
Introduced shrub	Creation	Standard landscaping management
Urban tree	Creation	Plantings to be monitored and replaced in the event of failure. Tree guards to be removed after 3 – 5 years.
Rural tree	Retention	Root Protection Areas (RPAs) should be established and avoided for development as far as reasonably practicable.
Hedgerow type	**Intervention type**	**Creation/Retention/Enhancement and Management considerations**
Native hedgerow	Retention	Root Protection Areas (RPAs) should be established and avoided for development as far as reasonably practicable. An annual, low-intensity rotational cutting regime should be undertaken alongside removal of injurious weeds.
Species-rich native hedgerow with trees	Creation/Enhancement	Planting success should be reviewed in the first years, with failed specimens replaced. Once the hedgerows have established, an annual, low-intensity rotational cutting regime should be undertaken alongside removal of injurious weeds.
Species-rich native hedgerow	Creation	Planting success should be reviewed in the first years, with failed specimens replaced. Once the hedgerows have established, an annual, low-intensity rotational cutting regime should be undertaken alongside removal of injurious weeds.
Non-native and ornamental hedgerow	Creation	Standard landscaping management.

The habitats proposed within the landscaping plan represent significant enhancements due to the creation of medium distinctiveness habitats. Therefore, a Habitat Management & Monitoring Plan will be required as part of the final biodiversity gain plan to be to be submitted following the granting of planning permission for the development. This plan will detail the management methods, schedules and monitoring plan for each habitat proposed.

Trading Rules

The SBM includes a feature known as trading rules, which stipulate that there must be no net loss in any one habitat type, in addition to achieving the mandated 10% biodiversity net gain. **Table A8. 11** details the estimated biodiversity loss of each habitat type and recommendations for satisfying these trading rules.

Achieving Biodiversity Net Gain

Area-based habitats

An additional 3.17 HU is required to achieve a 10% biodiversity net gain. However, to satisfy habitat trading rules within the SBM which stipulate there must be no net loss in any broad habitat type, 2.81 HU of medium distinctiveness grassland or a higher distinctiveness habitat and 0.06 HU of medium distinctiveness scrub or a higher distinctiveness habitat is so that there is no net loss in grassland and scrub biodiversity. Once trading rules are satisfied for the site (either through on or off-site mitigation/compensation) an additional 0.30 HU will be required to meet the mandatory 10% net gain target.

Based on the current site layout, it is considered unlikely that addition grassland and scrub units can be generated on site without significant loss of development area. Therefore, off-site mitigation and/or compensation will be required. This will be secured as part of the final biodiversity gain plan to be submitted following the granting of planning permission for the development.

The remaining deficit could be achieved on-site through the planting of an additional 24 trees. However, as trees planted within vegetated gardens do not count towards this target (as per SBM methodology), space is currently limited to accommodate the additional planting and it is foreseen that some of this deficit will have to be secured via off-site mitigation/compensation.

Hedgerow-based habitats

Based on the current landscaping plan, a 10% net gain for hedgerow units has easily been achieved and all trading rules have been satisfied.

Trading Rule Deficits in Biodiversity Value and Recommended Mitigation/Compensation

Table A8.8 – Trading rule deficits identified by habitat type and recommended on and off-site mitigation to satisfy trading rules

Broad Habitat Type	Habitat	On-site						Biodiversity Unit Change with on-site mitigation	Off-site
		Area/ Length Lost (ha/km)	Area/ Length Retained (ha/km)	Area/ Length Created (ha/km)	Biodiversity Unit Change	Habitat Trading Rule	Suggested Mitigation		Suggested mitigation
Grassland – Medium distinctiveness	Other neutral grassland	1.06	0	0.214	-2.81	Same broad habitat or higher distinctiveness habitat required	None – Additional grassland creation not feasible within current development layout.	-2.75	Creation of any medium distinctiveness grassland habitat (or high distinctiveness habitat type) to the value of 2.81 HU within the same Local Planning Authority or National Character Area; or secure compensation via a 3rd party habitat bank.
Heathland and shrub – Medium distinctiveness	Bramble scrub; Willow scrub; Mixed scrub	0.208	0	0.0834	-0.06	Same broad habitat or higher distinctiveness habitat required	None – Additional scrub creation not feasible within current development layout.	-0.06	Creation of any medium distinctiveness scrub habitat (or high distinctiveness habitat type) to the value of 0.06 HU within the same Local Planning Authority or National Character Area; or secure compensation via a 3rd party habitat bank.

Figure A8.1 – Post-Development Habitat Map



Legend

- Site Boundary
- Development area (Developed land; sealed surface)
- Introduced shrub
- Mixed scrub
- Other neutral grassland
- Vegetated garden
- Hedge ornamental non-native
- Native hedgerow
- Native species rich hedgerow
- Native species rich hedgerow with trees
- Newly planted trees
- Retained trees

Land off Central St, Holmewood

Post-Development Habitat Map

Date	May 2024
Scale	1:750@A3
Drawing Ref:	0316-PDHM-V2

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