



Preliminary Ecological Appraisal

Land North of East Street, Ruxton

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing and whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date.

This report provides a snap shot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated only dominant species maybe recorded.

The recommendations contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

Background

1.1 The Ecology Partnership was commissioned by Devine Homes to undertake a Preliminary Ecological Appraisal (PEA) assessment of the land north of East Street, Rusper, West Sussex, RH12 4PU, hereafter referred to as the 'site'.

1.2 The key objectives of a PEA (CIEEM 2017) are to:

- Identify the likely ecological constraints associated with a project;
- Identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy' (CIEEM 2016; BSI 2013, Clause 5.2);
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA); and
- Identify the opportunities offered by a project to deliver ecological enhancement.

1.3 This report comprises the:

- Legislative and planning context (Section 1);
- Assessment methodologies (Section 2);
- Results (Section 3);
- Implications for development (Section 4);
- An impact assessment (Section 5); and
- Conclusions (Section 6).

Site Context and Status

1.4 The site is located to the east of Rusper and to the north-east of Horsham (TQ 20778 37277). The site covers approximately 0.9ha and consists of a sheep-grazed field and a line of trees with mixed scrub understorey along the southern boundary. The immediate surroundings of the site consist of East Street to the south, low-density residential housing to the west, fields to the north and east, and woodland to the north-west.

1.5 The aerial photography overleaf (Figure 1) shows the site and its immediate surroundings. The red line depicts the approximate site boundary and survey area.



Figure 1: Approximate location of the red line boundary.

Proposed Development

1.6 It is understood that the current proposals for the site involve the construction of 18 new residential properties, with associated access, parking and gardens.

Planning Policies

1.7 The site was surveyed to assess its ecological value and to ensure the proposals were compliant with relevant planning policy and legislation. Policy guidance is provided by the National Planning Policy Framework (NPPF 2024) as well as policies from the Horsham District Council. The Local Plan is currently under review, but the Horsham District Planning Framework was adopted in 2015 which contains policies relating to nature conservation. Those relevant to the site include:

- *Policy 25 – The Natural Environment and Landscape Character*
- *Policy 31 – Green Infrastructure and Biodiversity*

1.8 The Environment Bill (Environment Act 2021) received Royal Assent on 9th November 2021 and is now enacted as the Environment Act 2021. Part 6 (Nature and Biodiversity) and Schedule 14 of the Environment Act 2021 insert a new section 90A and Schedule 7A into the Town and Country Planning Act 1990 (TCPA), which contain the provisions requiring mandatory biodiversity net gain for development granted planning permission pursuant to the TCPA. These provisions require developments to provide a biodiversity value post-development that exceeds the predevelopment biodiversity value of the onsite habitats by at least 10%. This was adopted in February

2024 although there are a number of exemptions which may mean that biodiversity net gain is not required. These are listed under government guidance and are as follows:

- Development below a de minimis threshold;
- Householder applications;
- Small scale self-build and custom housebuilding;
- HS2; and
- Biodiversity net gain sites.

1.9 The site has therefore been surveyed to assess its ecological value and to ensure compliance with national and local plan policies and other relevant nature conservation legislation including; Wildlife and Countryside Act 1981, Natural Environment and Rural Communities Act 2006, and the Conservation of Habitats and Species (EU Exit) Regulations 2019.

1.10 The report has been produced with reference to current guidelines for PEA (CIEEM 2017) and in accordance with BS 42020:2013 Biodiversity – Code of Practice for Planning and Development.

2.0 Methodology

Desktop Study

2.1 A desktop study search was completed using an internet-based mapping service (www.magic.gov.uk) for statutory designated sites and an internet-based aerial mapping service (maps.google.co.uk) was used to understand the habitats present in and around the survey area including identifying habitat linkages and features (ponds, woodlands etc.) within the wider landscape. Records were requested from Sussex Biodiversity Record Centre (SxBRC) for protected species, non-statutory sites and invasive species within 2km of the site boundary.

Preliminary Ecological Appraisal

2.2 An extended preliminary ecological appraisal was undertaken on 18th September 2024 by principal ecologist Matt Pendry BSc (Hons) MCIEEM. The surveyor identified the habitats present, following the standard 'UK Hab' auditing method. The site was surveyed on foot and the existing habitats and land uses were recorded on an appropriately scaled map (JNCC 2010). In addition, the dominant plant species in each

habitat were recorded. The potential for the site to support protected species was also assessed.

Protected Species Assessments

2.3 Any evidence of protected species was recorded. Standard methods of search and measures of presence or likely absence based on habitat suitability were used for bats in trees and buildings (Collins 2016), breeding birds¹, dormouse (Bright *et al.* 2006), great crested newt (ARG 2010), reptiles (Froglife 2015), badgers (Creswell *et al.* 1990) and water vole (Strachan *et al.* 2011).

Limitations

2.4 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment. The site was visited over the period of one site visit, as such seasonal variations cannot be observed and potentially only a selection of all species that potentially occur within the site have been recorded. Therefore, the survey provides a general assessment of potential nature conservation value of the site and does not include a definitive plant species list.

2.5 The protected species assessment provides a preliminary view of the likelihood of protected species occurring on site, based on the suitability of the habitat and any direct evidence on site. It should not be taken as providing a full and definitive survey of any protected species group. The assessment is only valid for the time when the survey was carried out. Additional surveys may be recommended if, on the basis of this assessment, it is considered reasonably likely that protected species may be present.

3.0 Results

Desktop Study

3.1 There is one internationally designated site located within 15km of the site boundary. Mole Gap to Reigate Escarpment Special Area of Conservation (SAC) located *c.* 13.7km north of the site. The site lies outside the wider 12km bat subsistence zones of the Sussex Bat SACs (The Mens, Singleton and Cocking Tunnels and Ebernoe Common).

¹<https://www.bto.org/our-science/projects/birdatlas/methods/breeding-evidence>

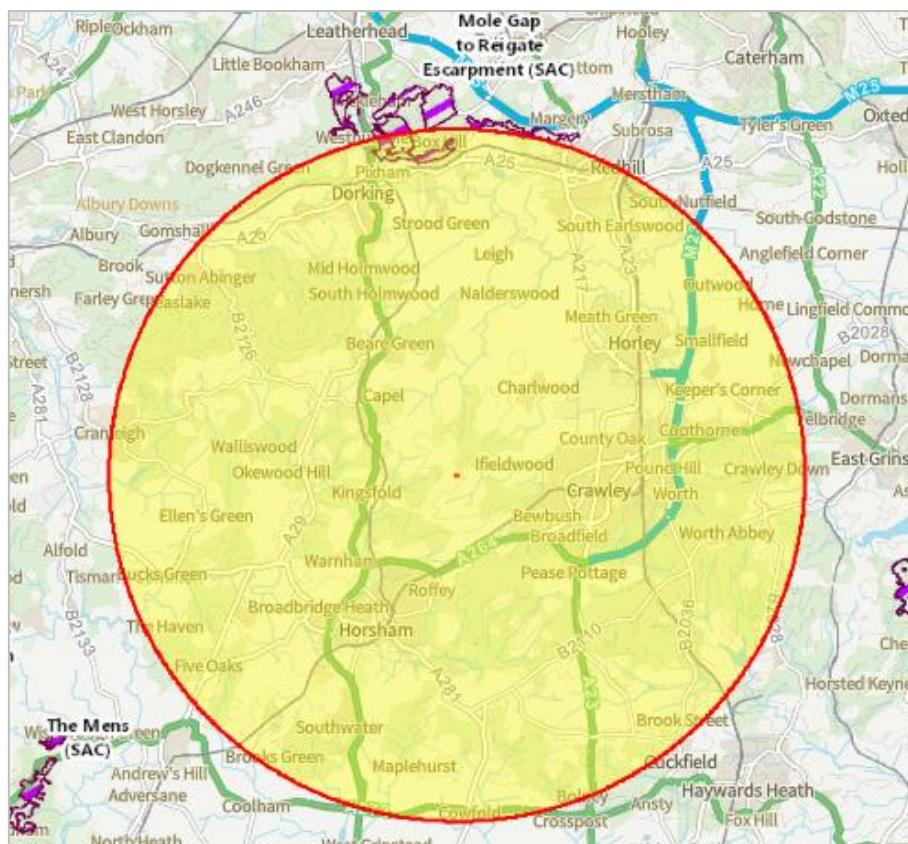


Figure 2: Internationally designated sites within 15km of the site boundary.

3.2 There are no national statutory designated sites within 2km of the site (Figure 3). The closest statutory designated site is House Copse Site of Special Scientific Interest (SSSI) located c. 2.1km south-east of the site boundary.

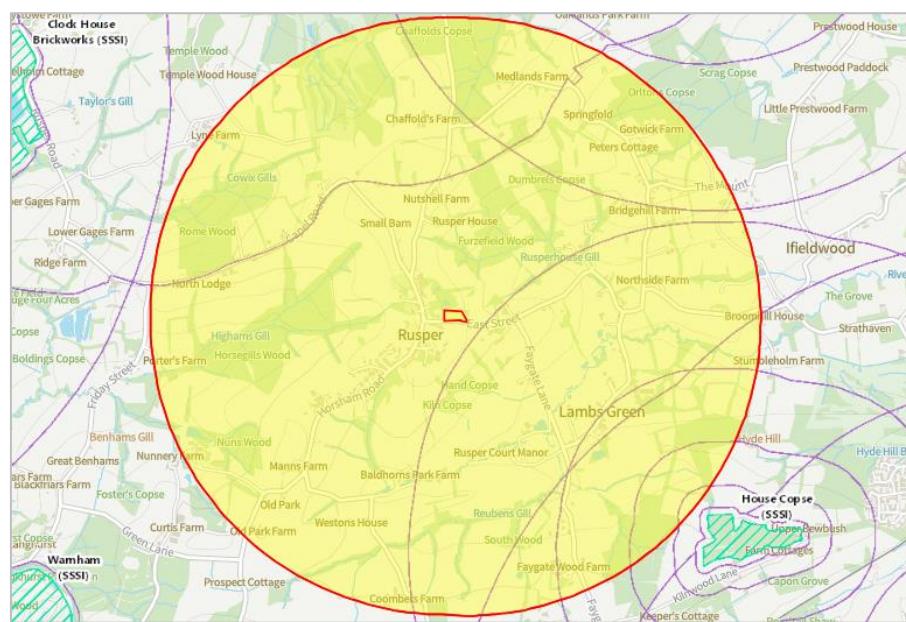


Figure 3: Closest statutory designated sites to the site boundary, purple lines indicate SSSI impact risk zones.

3.3 There are two non-statutory designated sites within 2km of the site boundary. These are both Local Wildlife Sites (LWS) and are listed below:

- Horsegills Wood located *c.* 420m west of the site; and
- Orltons Copse located *c.* 1.7km north-east of the site.

3.4 There are also several units of priority habitat within 2km of the site (Figure 4), the closest of each type include:

- Deciduous woodland *c.* 20m north;
- Ancient and semi-natural woodland *c.* 120m south-east;
- Traditional orchards *c.* 600m south-east;
- Lowland meadows *c.* 1.3km south-east; and
- Ancient replanted woodland *c.* 1.3km north.



Figure 4: Priority habitat within 2km of the site including ancient and semi natural woodland (green vertical hatching), deciduous woodland (dark green), traditional orchards (lime green), ancient replanted woodland (brown horizontal hatching), and lowland meadows (light green).

3.5 The desktop study revealed no European Protected Species (EPS) licences were granted within 2km of the site boundary (Figure 5). The nearest EPS licence was for the destruction of a common pipistrelle, soprano pipistrelle and brown long-eared bat resting place between 2011-2013 c. 2.1km south-west of the site. A great crested newt (GCN) survey licence return confirmed GCN presence in 2015 c. 230m north-west of the site.

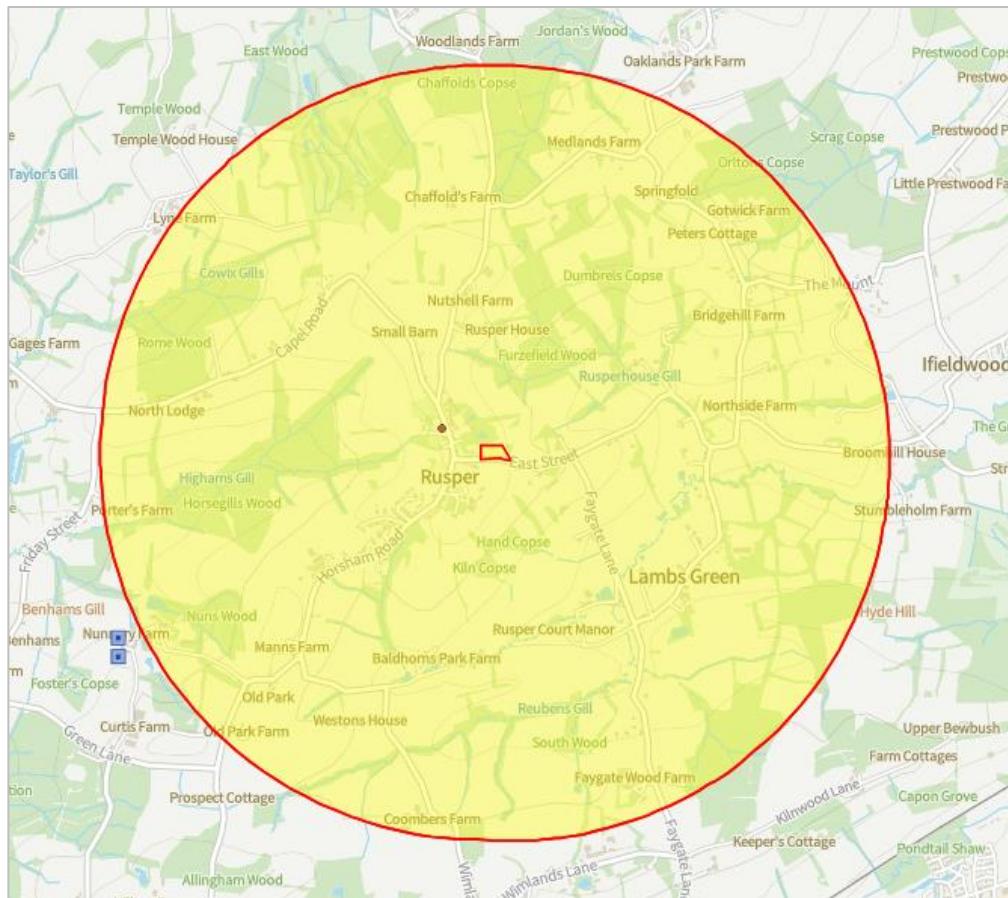


Figure 5: Location of bat EPS licences (blue squares) and GCN licence returns (purple dot) within 2km of the site boundary.

3.6 OS maps and aerial imagery indicate there are no ponds on site, however, five ponds were identified within 250m of the site (Figure 6).

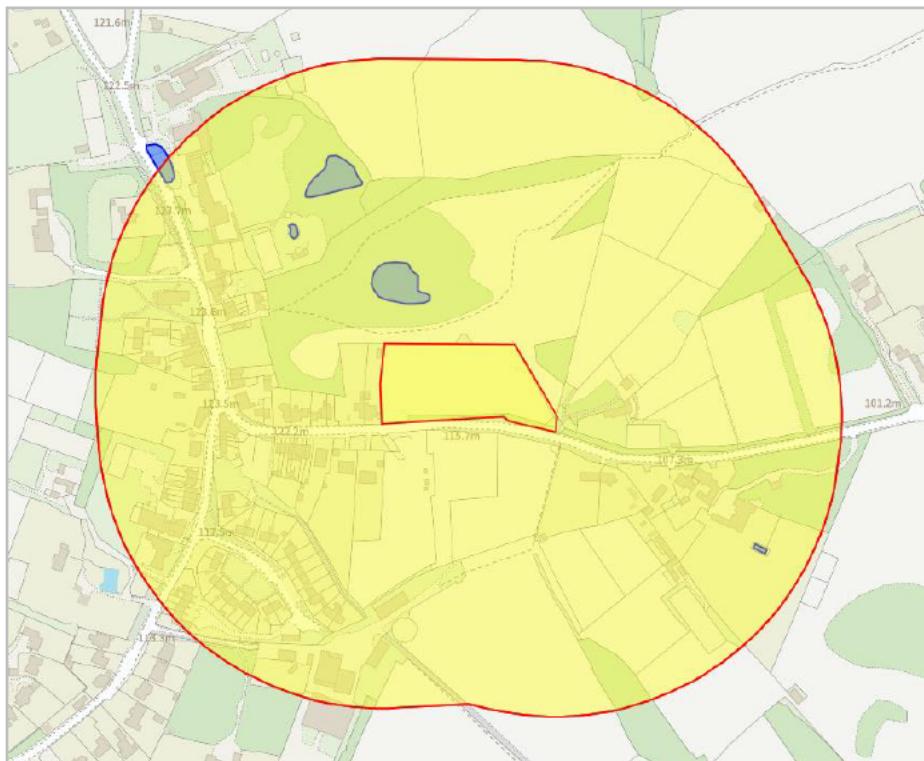


Figure 6: Ponds located within 250m of the site boundary.

3.7 A 2km radius data search was requested from Sussex Biodiversity Records Centre (SxBRC). Notable protected species from this search are outlined below (Table 1). Only records from within the last ten years and those closest to site have been included.

Table 1: Notable species recorded within 2km of the site in the last 10 years.

Species	Status	Closest record in last 10 years
Great Crested Newt <i>Triturus cristatus</i>	Wildlife and Countryside Act (1981 as amended) Schedule 5, s9.4b/c; Habitats Directive Annex 4; Habitat Regulations Schedule 2; NERC S41	c. 250m north west (29/04/2015)
Stag Beetle <i>Lucanus cervus</i>	NERC S41	c. 200m south west (13/06/2023)
Common Lizard <i>Zootoca vivipara</i>	Wildlife and Countryside Act (1981 as amended) Schedule 5 s9.1; NERC S41	c. 250m south (03/03/2015)
Bechstein's Bat <i>Myotis bechsteinii</i>	Wildlife and Countryside Act (1981 as amended) Schedule 5 s9.4b/c; Habitats Directive Annex 4; Habitats Directive Schedule 2; NERC S41	c. 300m south east (25/08/2021)
Noctule Bat <i>Nyctalus noctula</i>	Wildlife and Countryside Act (1981 as amended) Schedule 5 s9.4b/c; Habitats Directive Annex 4; Habitats Directive Schedule 2; NERC S41	c. 1.7km south east (08/05/2017)
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	Wildlife and Countryside Act (1981 as amended) Schedule 5 s9.4b/c; Habitats Directive Annex 4; Habitats Directive Schedule 2; NERC S41	c. 750m west (13/09/2022)
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	Wildlife and Countryside Act (1981 as amended) Schedule 5 s9.4b/c; Habitats Directive Annex 4; Habitats Directive Schedule 2; NERC S41	c. 750m west (22/08/2022)

Brown Long-eared Bat <i>Plecotus auritus</i>	Wildlife and Countryside Act (1981 as amended) Schedule 5 s9.4b/c; Habitats Directive Annex 4; Habitats Directive Schedule 2; NERC S41	c. 1.7km south west (10/11/2016)
Red Kite <i>Milvus milvus</i>	Wildlife and Countryside Act (1981 as amended) Schedule 1 Pt 1; Birds Directive A1	Within 2km (02/04/2021)
Osprey <i>Pandion haliaetus</i>	Wildlife and Countryside Act (1981 as amended) Schedule 1 Pt 1; Birds Directive A1	Within 2km (28/03/2017)
Lapwing <i>Vanellus vanellus</i>	NERC S41	Within 2km (30/04/2017)
Herring Gull <i>Larus argentatus</i>	NERC S41	Within 2km (29/12/2023)
Little egret <i>Egretta garzetta</i>	Birds Directive A1	Within 2km (14/02/2019)
Cuckoo <i>Cuculus canorus</i>	NERC S41	Within 2km (29/05/2021)
Hobby <i>Falco subbuteo</i>	Wildlife and Countryside Act (1981 as amended) Schedule 1 Pt 1	Within 2km (30/08/2015)
Skylark <i>Alauda arvensis</i>	NERC S41	Within 2km (20/03/2024)
Yellowhammer <i>Emberiza citrinella</i>	NERC S41	Within 2km (18/07/2021)
Reed bunting <i>Emberiza citrinella</i>	NERC S41	Within 2km (30/04/2017)
Hawfinch <i>Coccothraustes coccothraustes</i>	NERC S41	Within 2km (19/01/2018)
Linnet <i>Linaria cannabina</i>	NERC S41	Within 2km (19/03/2021)
Bullfinch <i>Pyrrhula pyrrhula</i>	NERC S41	Within 2km (20/01/2022)
Grasshopper Warbler <i>Locustella naevia</i>	NERC S41	Within 2km (21/04/2021)
Marsh tit <i>Poecile palustris</i>	NERC S41	Within 2km (28/12/2020)
House Sparrow <i>Passer domesticus</i>	NERC S41	Within 2km (29/12/2023)
Dunnock <i>Prunella modularis</i>	NERC S41	Within 2km (29/12/2023)
Firecrest <i>Regulus ignicapilla</i>	Wildlife and Countryside Act (1981 as amended) Schedule 1 Pt 1	Within 2km (03/05/2020)
Starling <i>Sturnus vulgaris</i>	NERC S41	Within 2km (29/12/2023)
Dartford Warbler <i>Currucu undata</i>	Wildlife and Countryside Act (1981 as amended) Schedule 1 Pt 1; Birds Directive A1	Within 2km (11/03/2016)
Redwing <i>Turdus iliacus</i>	Wildlife and Countryside Act (1981 as amended) Schedule 1 Pt 1	Within 2km (12/02/2023)
Song Thrush <i>Turdus philomelos</i>	NERC S41	Within 2km (29/12/2023)
Fieldfare <i>Turdus pilaris</i>	Wildlife and Countryside Act (1981 as amended) Schedule 1 Pt 1	Within 2km (29/12/2023)
Barn Owl <i>Tyta alba</i>	Wildlife and Countryside Act (1981 as amended) Schedule 1 Pt 1	Within 2km (24/07/2023)

Habitat Survey

3.8 The site largely comprised of sheep-grazed modified grassland with a line of trees and mixed scrub understorey on the southern boundary. Broad habitat types identified within the site boundary are detailed below. Only species of note have been listed within this section.

3.9 The habitat map is presented in **Appendix 1**, site photos in **Appendix 2** and a full species list in **Appendix 3**.

Modified Grassland

3.10 The majority of the site comprised of modified grassland, grazed by sheep, largely to a short sward height, however, sward height was more variable in some places. This habitat was dominated by perennial rye-grass, with abundant yorkshire fog and creeping bent. Creeping thistle was frequently present, in addition to occasional timothy grass, cocksfoot grass, meadow barley, creeping buttercup, creeping cinquefoil, red fescue, creeping bent and crested dogtail. Transects identified an average species richness of 4.6 species/m².

Line of Trees

3.11 A line of trees was present along the southern boundary of the site included wild cherry, holly, ash, hazel, field maple and pedunculate oak. These were largely young and semi-mature however some mature specimens were also present.

Mixed Scrub

3.12 The mixed scrub contained frequent bramble and ivy, with occasional blackthorn and holly, and rare dog rose and midland hawthorn.

Native hedgerow

3.13 A small native hedgerow was located at the west extent of the southern boundary. This was c.2.5m in height and 1m in width and comprised blackthorn, field maple and goat willow.

Protected Species

Roosting Bats

3.14 One tree along the southern boundary of the site had a single PRF-M (Potential Roosting Feature- Maternity). This comprised a rot hole on a major limb on its south-western aspect approximately 4m above ground level. This appeared to lead into a small cavity within the limb.

3.15 The remainder of the trees along the southern boundary were considered to be unsuitable for roosting bats due to a lack of potential roosting features such as rot holes, broken limbs, complex growth forms and veteran features.

Foraging and Commuting Bats

3.16 The site was dominated short sward modified grassland which provides limited foraging opportunities for bats. The line of trees along the southern boundary could provide good foraging habitat and commuting opportunities for bats to and from suitable roosting sites in the surrounding area. As such, it is considered the site has some potential for foraging and commuting bats, largely limited to the southern boundary habitats.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Great Crested Newts

3.18 The site itself was found to have very limited suitable terrestrial habitat for great crested newts due to the dominance of short sward grassland. There are no ponds present on site, however, a total of five ponds were identified within 250m of the site, several of which have no significant dispersal barriers between them and the site. A GCN record from 2015 is located c. 250m north-west of the site, with several suitable ponds and terrestrial habitat separating it from the site.

3.19 The site falls within the NatureSpace Partnership amber risk zone, which represents suitable habitat where GCN are “likely to be present” (Figure 7).

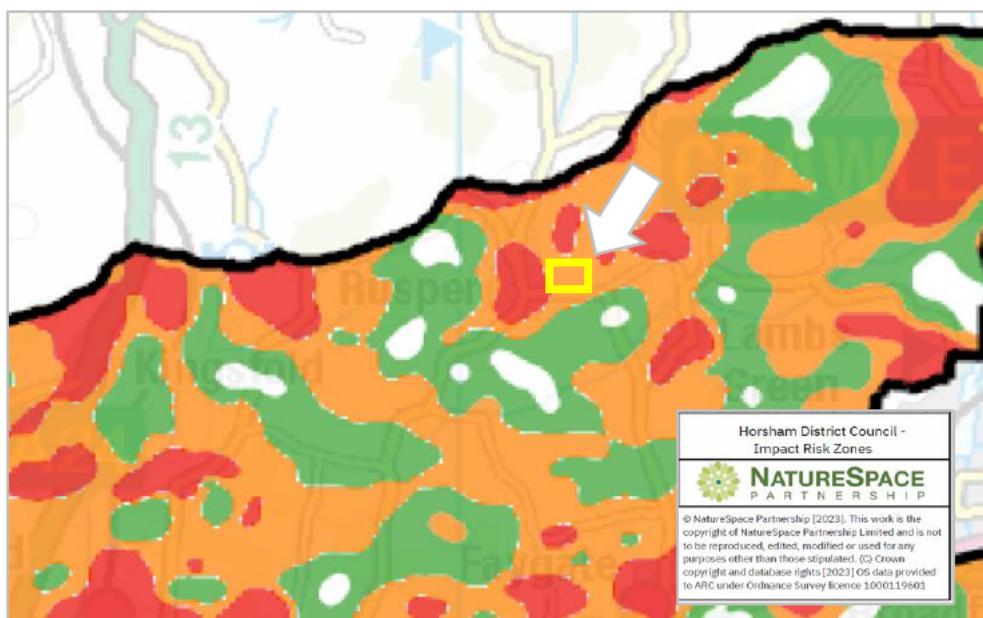


Figure 7: NatureSpace Partnership Impact Risk Zones, yellow rectangle represents approximate site location.

Dormice

3.20 The site mostly comprises short-sward sheep-grazed grassland, which is considered unsuitable dormice habitat. The tree line habitat on the southern boundary of the site was considered to have some, albeit limited, potential as a commuting corridor to areas of woodland within the surrounding area. The canopy of the parallel treeline on the opposite side of East Street connects to the tree line on site, which is subsequently connected to a small network of hedgerows and woodland to the south. However, overall it is considered unlikely dormouse would be present on site.

Reptiles

3.21 The majority of the site was considered unsuitable for reptile species due to the lack of any long sward vegetation for foraging and refuge habitat. Additionally, there are no records of reptile species within the surrounding area in the last 10 years. However, the mixed scrub habitat along the southern boundary shows some potential to support low reptile populations. As such, it is considered possible that some reptile species may be present in the south of the site, albeit in low numbers.

Nesting Birds

3.22 The line of trees on site were considered to have potential to support nesting birds.

Other Species

3.23 Due to a lack of suitable habitat, the site was not considered suitable for other protected species, such as water voles and otters.

3.24 The scrub edge habitat along the southern edge of the site is suitable for hedgehogs.

4.0 Discussion

4.1 The following paragraphs consider the effects of the development on designated sites, priority habitats and protected and priority species. Where the desk study and habitat survey provide sufficient evidence for an assessment of effects on any of these groups to be taken through planning, these are detailed below, the need for additional surveys and when and how these should be completed are summarised, if required.

Effects on Designated Sites

4.2 The site does not fall within or adjacent to any statutory sites. The nearest internationally designated site, Mole Gap to Reigate Escarpment SAC, is located 13.7km to the north. Owing to the small scale nature of the development and considerable distance, impacts on the integrity of this designated site are not considered likely.

4.3 The Arun Valley Wetland SPA, SAC & Ramsar, is located over 24km south-west of the site boundary. However, despite this distance, the site does fall within the Sussex North Water Resource Zone (SNWRZ) that has been defined by Defra for this designation, and as such, is subject to water neutrality requirements. For applications where increased demand for water resources is the only pathway for impacts, Natural England's substantive advice (Position Statement Interim Approach, September 2021) is that applications without mitigation will result in a likely significant effect on the Arun Valley SAC/SPA/Ramsar site in combination with other developments in the Sussex North WSZ. It is for the utilities and services teams to identify if water neutrality can be met on this site. No other impacts on this designated site are anticipated as a result of the development.

4.4 The site also lies outside any SSSI Impact Risk Zones for national statutory designations. It is considered that due to the size of the development and the distance from all designated sites, that no impacts, direct or otherwise, would be predicted on national statutory designations as a result of the proposals.

4.5 There are two non-statutory sites located within the wider landscape. The nearest of these is Horsegills Wood LWS, located *c.* 420m west of the site. Considering the distance between the proposed development site and the LWS, it is considered that no impacts, direct or otherwise, would be predicted.

Effects on Priority Habitats

4.6 The only priority habitat on site comprises a small length of native hedgerow in the south-west of the site. Approximately 3m of this hedgerow will be lost to facilitate pedestrian access into the site. As such, it is recommended that additional species-rich native hedge planting is incorporated into the design of the development to compensate for this loss.

4.7 A number of areas of priority habitat are located within the local landscape. The closest of these is a parcel of priority deciduous woodland located *c.* 20m north of the site. Due to the nature of the development, private nature of the woodland, and the lack of related habitats to be lost, no impacts on this or any other areas of priority habitat are expected as a result of the proposed development on site.

Effects on on-site habitats

4.8 The modified grassland on site is common, widespread, and of low biodiversity value. As such, it is considered that the loss or removal of this habitat would result in site level impacts only. The habitat with the most ecological value on site is the line of trees and mixed scrub of which the majority is being retained.

4.9 A small number of trees and the underlying mixed scrub is proposed to be removed to facilitate access to the site. As such, it is considered that the loss of this habitat will require compensation in the form of habitat creation/enhancement to support 'biodiversity net gain'.

Protected Species

Roosting Bats

4.10 One tree along the southern boundary of the site "T22" (David Arch Associates, 2024) had a single PRF-M (Potential Roosting Feature- Maternity) on its south-western aspect approximately 4m above ground level. While it cannot be confirmed if this feature contains roosting bats, it is planned to be retained as part of the development and therefore no further survey will be necessary.

4.11 However, as a precaution, advice from an arboriculturist should be followed to protect the tree during construction and the area should not receive any additional illumination from artificial lighting as part of the development.

Foraging and Commuting Bats

4.12 The majority of the site is considered to be of limited value to foraging bats due to the dominance of heavily grazed grassland. A tree line located on the southern site boundary was considered to offer some potential for commuting bats, however, it is understood this habitat will be mostly unaffected by the works on site. A small section of the treeline and scrub understory is to be removed for access, however the adjacent tree line on the other side of East Street will help to maintain an uninterrupted commuting corridor for bats.

4.13 This southern treeline should not be illuminated with additional street lighting as to create a dark corridor suitable for bats foraging and commuting along the feature. All bat species are nocturnal, resting in dark conditions in the day and emerging at night to feed. Bats are known to be affected by light levels, which can affect both their roosting and foraging behaviour. This needs to be considered with a sympathetic lighting scheme for the development. Recommendations include:

- Installing lighting only if there is a significant need;
- Using sodium lamps instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics;
- Directing lighting to where it is needed and avoiding light spillage;
- Using baffled lighting where light is directed towards the ground and

- Avoid putting lighting near trees suitable for roosting bats, woodland, trees or hedgerows and angling light away from these linear features which are used by commuting and foraging bats.

4.14 According to Bat Conservation Trust guidelines it is important that proportionality is employed when recommending further survey work for bat species on a proposed development site. As stated within section 2.2.19 of the latest survey guidelines (2023), the following points need to be considered with regard to planning bat surveys:

- Likelihood of bats being present;
- Type of proposed activities;
- Scale of proposed activities;
- Size, nature and complexity of the site;
- Species concerned;
- Number of individuals.

4.15 The site is considered to have limited suitability for bats, and considering the above and the small scale nature of the proposed development, it is considered that transect surveys for bats would not be required, as long as bat sensitive lighting strategy is pursued. Furthermore, it is considered that the proposed development on-site would not impact upon the ecological functionality of the local landscape.

Badgers

4.16 No evidence of badgers, such as setts or latrines, were found on site. Additionally, the site was dominated by short sward grassland which is considered unsuitable for badgers. However, the presence of badgers on site cannot be ruled out definitively and, as such, best practice guidelines are recommended to be followed throughout development, to help ensure no individuals are harmed during the construction phase of the project:

- Any excavations and/or trenches associated with construction are either covered at night or supplemented by means of escape for any badgers that may fall into the excavation whilst foraging;
- Any open pipes or conduits laid should be blocked off each night to prevent badgers from entering them;
- As far as possible, construction work should only take place between dawn and dusk with no late evening work to reduce possible disturbance.

4.17 If these methods are followed, no significant residual impacts are predicted on badgers on site or within the local area. These steps will also help to ensure no harm comes to other mammals such as rabbits.

Reptiles

4.18 The majority of the site was not considered to provide any suitability for reptiles, with the dominance of short sward modified grassland. However, the mixed scrub along the southern boundary offered some potential to support low populations of reptiles. It is understood that a small section of this mixed scrub is proposed to be removed to facilitate access to the site as part of the development. Given the small area proposed for clearance and lack of reptile records within 2km of the site boundary in the last 10 years, a reptile survey is not required. However, the clearance of scrub vegetation should be done using reasonable avoidance measures as outlined below:

- Sensitive clearance should be undertaken with the supervision of a suitable qualified ecologist.
- Initially, the ecologist will search through the scrub by hand to identify any reptiles and move them to a safe location.
- Following this, two cuts will take place, the first down to 150mm, and then another down to 5mm.
- The initial cut should take place in one direction, allowing reptiles to move towards retained habitat. Once the initial cut has been completed, the arisings should be left for several days to allow individual reptiles to move. The arisings should be then hand collected/raked. Finally, once the arisings have been removed, a final cut should be conducted and the arisings removed. This process should take a week.
- Any log/brash/soil piles are to be removed sensitively and by hand, not using any heavy machinery. This is especially important if works must be carried out during the winter, when reptiles (and other animals) are likely to be hibernating within such structures. Grass snakes in particular prefer to hibernate in compost piles.
- Following the above, and during construction, the site is to be kept free of piles of debris such as log piles, leaf piles, brick heaps or loose soil, and grassland should be maintained at a short sward throughout the site.

- Any trenches/holes dug within the construction blue print should either be covered over at night, or a plank placed inside to assist any wildlife that may fall in.

Nesting Birds

4.19 The line of trees on site had some potential to support nesting bird species. It is understood this feature will be mostly retained during development. It is recommended that any vegetation with potential to support nesting birds should be removed outside of the breeding bird season (March-September inclusive) or immediately after a nesting bird check by a suitably qualified ecologist. If active nests are identified, works in the vicinity of the nest must cease until the birds have fledged the nest.

Great Crested Newt (GCN)

4.20 The site itself is dominated by short sward, grazed grassland and is considered unsuitable GCN terrestrial habitat. However, due to the proximity to a confirmed GCN pond, separated only by suitable ponds and terrestrial habitat, the site is likely to contain GCN.

4.21 As such, it is recommended that the project apply for district licencing for great crested newts through the Horsham Nature Space scheme. This would not require further survey work; however, a financial contribution would be agreed to provide targeted enhancement and management for the species within the county. This approach works on a worst-case scenario approach. The applicant should ensure that the relevant certificate and the required financial contributions are agreed prior to the start of works.

Dormice

4.22 The short sward modified grassland which dominates the site is considered unsuitable for dormice. The tree line and scrub along the southern boundary, however, may provide suitable foraging and commuting habitat to areas of woodland and hedgerow in the surrounding area. The tree canopy, when in full leaf, provides connectivity to tree lines south of East Street and connected hedgerow and areas of woodland. Therefore, it is possible that dormice may use the tree line on site as a foraging and commuting feature, however it is highly unlikely, given the limited level of

connectivity and lack of records in the surrounding area. As such, due to the small scale of the scrub clearance on site and unlikelihood of presence, additional surveys are not considered necessary.

4.23 However, as a precaution, it is recommended that works to the southern mixed scrub are undertaken using Reasonable Avoidance Measures (RAMs) for dormouse. This would include the following:

- The removal of small sections of hedgerow and linear scrub within the development area is recommended in late September/October when dormice are still active but are unlikely to be breeding and will not yet be hibernating at ground level.
- Clearance will be carried out under the supervision of an ecologist who will inspect the vegetation for evidence of dormice prior to and during removal.
- The hedgerow/scrub will be removed in stages:
 - The ecologist will inspect the hedgerow/scrub for any dormouse nests prior to the first cut.
 - The first cut will take place to knee height.
 - The ecologist will then fingertip search the cut area again to ensure no nests are present.
 - A second cut will then take place to ground level.
 - This process will be repeated along the hedge/scrub progressing in a linear fashion from one end to the other to encourage any animals present to disperse naturally into neighbouring habitats.
- If clearance cannot be carried out in September/October, a two-stage cut will be required. This will involve the clearance of the hedgerow to knee height between December and March as dormice hibernate at ground level. The second cut and removal of stumps will then take place around April, depending on weather conditions (prolonged cold/wet spells mean dormice remain torpid for longer).
- If any dormice or dormouse nests are found at any time during clearance, works must stop immediately and Natural England will be contacted for advice.

4.24 The retention of the majority of mixed scrub and tree line and creation of new species-rich hedgerows around the perimeter of the site ensure potential commuting routes for dormouse are maintained across the site post development.

Other species

4.23 The site has limited potential to support hedgehog, however, their presence on site cannot be ruled out. As such, it is recommended that best practice guidelines be followed throughout any proposed development, to ensure no individuals are harmed. This includes a pre-clearance check of any scrub habitat and the translocation of any hedgehogs found to safe, retained habitat.

4.24 No potential for any other species, such as otters or water voles was identified within the site boundary. It is considered that if a protected species are recorded during works, then all works must cease, and advice should be sought from a qualified ecologist.

Ecological Enhancements

4.25 Several enhancements can be made to the final development to further biodiversity net gain. Planning policy also encourages developments to improve biodiversity, therefore some recommended ecological enhancements to be considered are included below. The development will also have to give due regard to Policy R25 - The Natural Environment and Landscape Character. This requires proposals to "*development proposals will be required to contribute to the enhancement of existing biodiversity, and should create and manage new habitats where appropriate.*" The Council will also support "*new development which retains and/or enhances significant features of nature conservation on development sites.*"

4.26 The planting of new species-rich native hedgerows around the boundaries of the site is recommended to provide suitable foraging habitat and shelter for a range of species in addition to improving ecological connectivity across the site post-development. Suitable native species of value to wildlife include hazel, beech, elder, hawthorn, wild cherry, apple, yew, spindle and holly. These could be planted around the site boundaries and within shared open areas.

4.27 Artificial house sparrow and swift nest sites can be built into the development. Nest boxes should be installed in order to provide new nesting opportunities for birds. These will be inserted into the building and become integral with the design. Such boxes include the following below. Either of these models can be used within the building (Figure 8):

- Schwegler Sparrow Terrace (1SP) should be inserted into the wall structure or inserted on to the wall.
- Woodstone Build-in House Sparrow Nest Box.



Figure 8: Schwegler sparrow terrace (left) with the Woodstone Build in House box (right).

4.28 Bat boxes can also be integrated into the structure of the development (Figure 9). These provide good opportunities for crevice-dwelling species such as pipistrelles. The opening of the bat box/tube will be the only section visible, and they are designed so that they require little to no maintenance. Several of these tubes can be established in a row together providing a good-sized roost space. The bat tubes should be inserted in the brickwork at least 4m from ground level in a location not illuminated by artificial lighting. Habitbat, in association with the Bat Conservation Trust, provide a range of boxes which are unfaced for render or designed to match the brickwork of the building.

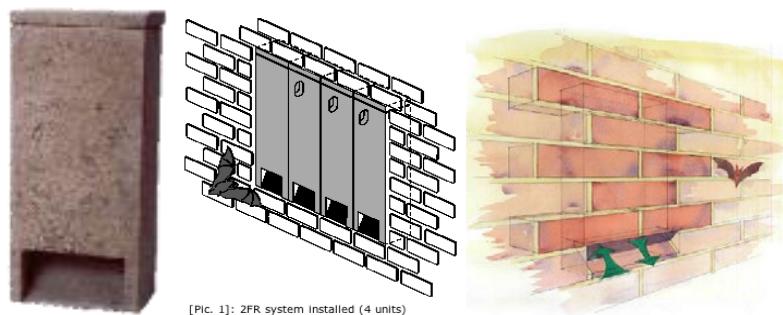


Figure 9: Bat tubes incorporated into the wall of a building to provide roosting space

4.29 It is also recommended that log piles are created along the northern boundary of the site adjacent to the native tree line. Log piles offer shelter for hibernating small mammals and insects, as well as a foraging area for some birds. Recommended structures for the log piles are shown in Figure 10 below.



Figure 10: Examples of log piles that can be made on site.

5.0 Impact Assessment

5.1 This section of the report forms an EcIA (Ecological Impact Assessment) and is designed to quantify and evaluate the potential impacts of the development on habitats and species present on site or within the local area.

5.2 The approach to this assessment accords with guidance presented within the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM 2018). In essence, an EcIA assesses the activities associated with a proposed scheme that are likely to generate changes within identified zone of influences, on identified ecological features and receptors. The proposals are subsequently reviewed, and mitigation and compensation measures are outlined which help to reduce negative impacts.

5.3 Table 2 summarises the impacts and required mitigation for each receptor as previously detailed in the discussion.

Table 2: Assessment of effects from the proposal after mitigation and compensation

Feature	Scale of Importance	Mitigation/Compensation Required	Residual Effect
Sussex North Water Supply Zone (WSZ)	International	Water neutrality to be considered by the water consultants. Measures in line with recommendations.	Undetermined
National Statutory Designated Sites	National	None required – sufficient distance from site. No related habitat to be lost.	Not significant
Non-Statutory Sites	County	None required – sufficient distance from site. No related habitat to be lost.	Not significant

Priority habitats	Site	Loss of 3m of native hedgerow to be compensated through creation of new species rich native hedgerow around the site.	Not significant
Bat (roosting)	Up to local	Tree 22 with PRF-M identified, to be retained and protected from the development and sensitive lighting scheme to be implemented.	Not significant
Bats (commuting and foraging)	Up to local	Suitable foraging/commuting habitat on site to be largely retained as part of the development Sensitive lighting measures to be implemented.	Not significant
[REDACTED]	[REDACTED]	[REDACTED] [REDACTED] [REDACTED]	[REDACTED]
Breeding birds	Site	Mitigating direct harm to nests by removal of any suitable nesting habitat outside of nesting bird season or after a check by a suitably qualified ecologist.	Not significant
GCN	Site	District license required to offset potential minor impacts associated with limited loss of terrestrial habitat on site.	Not significant
Reptiles	Site	Avoidance of direct harm using reasonable avoidance measures during vegetation clearance.	Not significant
Dormice	Up to local	Avoidance of direct harm using reasonable avoidance measures during vegetation clearance.	Not significant

6.0 Conclusions

- 6.1 The site does not lie within or adjacent to any designated sites. A number of statutory sites and non-statutory sites are located within the surrounding area; however, no residual negative impacts are anticipated due to the small-scale nature of the development, the distances between the site and all designated sites, and the lack of any related habitat to be lost.
- 6.2 The site does fall within the Sussex North Water Supply Zone (WSZ). As such, the impacts of the development on water neutrality need to be considered by a water specialist.
- 6.3 The only priority habitat on site is a small section of native hedgerow in the south-western corner. To compensate for the loss of *c.3m* of this hedge, incorporation of additional native species-rich hedgerows are recommended with the landscape design.
- 6.4 The majority of the site is comprised of modified grassland, highly grazed by sheep, which is not considered to be ecologically significant. The line of trees and underlying mixed scrub understorey along the southern boundary is being mostly retained.
- 6.5 One tree in the southern tree line was identified as having one PRF-M. The tree is proposed to be retained as part of the development, so further surveys are not required. However as a precaution, sufficient tree protection should be implemented during construction and there should be no increase in illumination from artificial light in the immediate area.
- 6.6 The southern tree line was considered to be of some interest for foraging and commuting bats, but is being largely retained as part of the development. On the basis that a bat sensitive lighting strategy is followed along this boundary, no significant impacts of commuting/foraging bats is anticipated and no further survey is required.
- 6.7 No evidence of badgers was identified on site. Sensitive working practices have been recommended to ensure that no individuals are harmed throughout development.
- 6.8 The southern boundary treeline and scrub makes up the edge of a potential dormice foraging and commuting habitat. While likelihood of presence is low due to lack of

records in the area, and poor connectivity and habitat extent, a sensitive scrub removal process has been outlined as a precaution.

- 6.9 The southern boundary scrub also offers low potential to support a low population of reptiles. While no further surveys would be necessary, reasonable avoidance measures are to be implemented while a small section of scrub is cleared for site access.
- 6.10 The site contained no ponds and GCN terrestrial habitat on site was either sub-optimal or in minor abundance. However, there are confirmed records of GCN in the area, as well as other ponds to the north, with no significant dispersal barriers between them and the site. Therefore, it is recommended that the development apply to join Nature Space district licence scheme prior to development.
- 6.11 Any clearance of suitable nesting bird habitat, including scattered trees and underlying scrub and hedgerows, should be undertaken outside nesting bird season after a nesting bird check by a qualified ecologist.
- 6.12 A pre-clearance check of any scrub being removed should be undertaken in order to prevent harm to hedgehogs who may be present on site.
- 6.13 Recommendations for enhancements have been made within this report, aimed at improving the ecological value of the site post-development.

7.0 References

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Internet resources:

Google Maps: www.google.co.uk/maps

Magic Interactive Map: www.magic.gov.uk

Appendix 1: Habitat Map

Appendix 2: Photos

Photograph 1: Sheep-grazed short sward modified grassland.	 A photograph of a grassy field. The grass is short and green, with some brown patches. In the background, there are trees and a fence. The camera info at the bottom left says 'REDMI NOTE 9 AI QUAD CAMERA'.
Photograph 2: Tree on southern boundary with potential bat roosting feature	 A photograph of a large tree trunk with many branches. The trunk is brown and textured. The camera info at the bottom left says 'REDMI NOTE 9 AI QUAD CAMERA'.
Photograph 3: Mixed scrub understorey along southern site boundary.	 A photograph of a fence line with dense green bushes and trees behind it. The fence is made of wire and wooden posts. The camera info at the bottom left says 'REDMI NOTE 9 AI QUAD CAMERA'.

Photograph 4:
Unsealed rubble
surface in
southwest of the
site.



Appendix 3: Species List

Common name	Latin name	Quadrat					DAFOR score
		1	2	3	4	5	
Modified Grassland							
Perennial rye-grass	<i>Lolium perenne</i>	✓	✓	✓	✓	✓	D
Timothy Grass	<i>Phleum pratense</i>	✓	✓				O
Cocksfoot Grass	<i>Dactylis glomerata</i>	✓	✓				O
Yorkshire fog	<i>Holcus lanatus</i>	✓	✓		✓	✓	A
Nettle	<i>Urtica dioica</i>						R
Meadow barley	<i>Hordeum secalinum</i>		✓				O
Creeping Bent	<i>Agrostis stolonifera</i>			✓	✓	✓	A
Creeping thistle	<i>Cirsium arvense</i>				✓	✓	F
Creeping Buttercup	<i>Ranunculus repens</i>					✓	O
Creeping cinquefoil	<i>Potentilla reptans</i>			✓	✓		O
Red Fescue	<i>Festuca rubra</i>					✓	O
Soft Rush	<i>Juncus effusus</i>						R
Meadow Buttercup	<i>Ranunculus acris</i>						R
Common Bent	<i>Agrostis capillaris</i>						O
Crested dog's-tail	<i>Cynosurus cristatus</i>						O
Total Species:		4	5	3	5	6	
Average Species Richness:		4.6					

Common Name	Latin Name	DAFOR
Boundary Trees and Scrub		
Wild Cherry	<i>Prunus avium</i>	O
Dog Rose	<i>Rosa canina</i>	R
Blackthorn	<i>Prunus spinosa</i>	O
Ivy	<i>Hedera helix</i>	F
Bramble	<i>Rubus fruticosus</i>	F
Holly	<i>Ilex aquifolium</i>	O
Midland Hawthorn	<i>Crataegus laevigata</i>	R
Field Maple	<i>Acer campestre</i>	O
Ash	<i>Fraxinus excelsior</i>	O
Hazel	<i>Corylus avellana</i>	F
Pedunculate Oak	<i>Quercus robur</i>	F
Goat willow	<i>Salix caprea</i>	R
Sycamore	<i>Acer pseudoplatanus</i>	R

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