



Ecology Appraisal

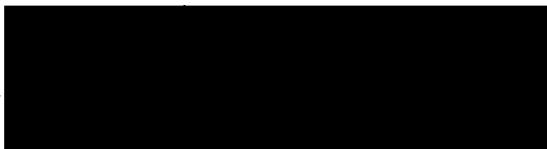
Land at Nova Paddocks

Eastergate Lane

Fontwell

West Sussex

Date: August 2017



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Preliminary Ecological Appraisal (PEA)

0.0 Non- Technical Summary

0.1 Background -

The survey follows national guidelines JNCC (2010) allowing for a day-time inspection and recommendations for further surveys if considered necessary. If a deviation from the guidelines has been made this will be detailed in the Method Section.

The following report details the findings and recommendations for the site of Land at Nova Paddocks.

0.2 Results and Findings –

A site consisting of tall ruderal, a shed, scrub and a hay field. The site has suitable reptile habitat, some foraging habitat for bats.

0.3 Impact Assessment and Recommendations –

Possible damage and destruction of reptile habitat if found to be present.

Further survey for reptiles are required and general recommendations are given in section 4. Please refer.

1.0 Introduction

WS Planning & Architecture, has commissioned DAA to undertake a PEA for the site of Land at Nova Paddocks, Eastergate Lane, Fontwell, West Sussex. Outline planning permission is being sought to develop the site.

This survey has checked all habitats, buildings, trees or structures due to be affected by the proposals on site, it includes checking for protected species, signs of protected species or habitat value e.g. crevices, badger setts, ponds etc. as well as mapping the habitats on site.

The inspection was conducted on the Friday, 18th August 2017.

The survey can only ever provide a 'snap shot' of the site at the time of the survey and circumstances may change following this report. Health and Safety restrictions or obstructions may limit the ability to find evidence.

Biological records have been requested to give the report context and allow a study of the surrounds. The information is often sensitive and therefore a synopsis is provided and the full data released separately for verification.

The survey can be conducted year-round with the optimal period between mid-March and mid-October (south)/1st April and 30th September (north). However, it can be limited due to bad weather and in the winter, when some species are not as active, thus evidence and species are often not found. During these periods habitat value (likely presence) becomes more important to the assessment of the site.

Summary of legislation and National Planning Policy that protects wildlife in England:

- Conservation of Habitats and Species Regulations 2010.
- Wildlife and Countryside Act 1981 as amended.
- Countryside and Rights of Way Act 2000.
- Natural Environment and Rural Communities Act 2006.
- National Planning Policy Framework ("NPPF").
- Circular 06/05.

This legislation makes it illegal to:

- Intentionally or deliberately kill, injure or capture a protected species.

- Deliberately disturb a protected species, whether at rest or not.
- Damage, destroy or obstruct access to a resting place.
- Possess or transport a protected species or any part of that species, unless acquired legally.
- Sell, barter or exchange a protected species, or any part of a species.

1.1 Species Specific information: -

All EU protected species have the same protection and the detail under Bats also applies to GCN, Dormouse, Otters and the two EU protected reptiles.

1.1.1 Breeding birds

All nesting birds are protected under the Wildlife and Countryside Act (as amended) 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. Furthermore, a number of birds enjoy further protection under that Act and are listed on Schedule 1 of the Act. These further protected birds are also protected from disturbance and it may be necessary to operate a “no-go” buffer zone around such nests – typically out to 5m.

1.1.2 Bats

All 18 species of bat common in the UK (17 known to be breeding) are fully protected under the Wildlife and Countryside Act (as amended) 1981 through inclusion in Schedule V of the Act. All bat species in the UK are also included in Schedule II of the Habitats Regulations 2010 which transpose Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (“EC Habitats Directive”) which defines European protected species of animals.

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

1. Intentionally or deliberately kill, injure or capture bats.

2. Deliberately disturb bats, whether at roost or not.
3. Damage, destroy or obstruct access to bat roosts.
4. Possess or transport bats, unless acquired legally.
5. Sell, barter or exchange bats.

1.1.3 Reptiles

There are six species of reptiles in Great Britain (Edgar et al. 2010) and four of these are commonly found; the grass snake (*Natrix natrix*), barred grass snake, (*Natrix Helvetica*), adder (*Vipera berus*), common lizard (*Zootoca vivipara*) and slow worm (*Anguis fragilis*).

All native British species of reptiles are legally protected through their inclusion in Schedule V of the Wildlife and Countryside Act 1981. As such, all species are protected from deliberate killing or injury. Therefore, where development is permitted, and there will be a significant change in land use, a reasonable effort must be undertaken to avoid committing an offence. The same act makes the trading of native reptile species a criminal offence without appropriate licensing.

Two species of reptile; the smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*), are further protected through their inclusion in Schedule II of the Habitats Regulations 2010 which transposes Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("EC Habitats Directive"), which defines European protected species of animals ("rare reptiles.")

1.1.4 Badgers

Badgers (*Meles meles*) Both the badger and its habitat are protected under The Protection of Badgers Act 1992, Schedule V of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention 1979.

This legislation makes it an offence to:

- Kill, injure, take or possess a badger.
- Interfere with, damage or destroy a badger sett including e.g. obstruct access to a badger sett.
- Cruelly treat or harm a badger.

- Disturb a badger in a sett.

1.1.5 Great Crested Newts

Great crested newts (GCN) *Triturus cristatus* are listed in both Annex IV of the EC Habitats Directive and in Schedule V of the Wildlife and Countryside Act 1981.

GCN are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

2.0 Methods

The survey follows the national guidelines JNCC (2010) and the following equipment is available for the inspection:

- Torches (e.g. LED Lensar type).
- Ladders (Standard 4m telescopic surveying ladder).
- Endoscope where holes, cracks and crevices are accessible.
- Mirrors (extendable and movable mirror face).
- Binoculars (Pentax close focus).
- Thermometer/hygrometer.
- Camera.
- Sample bags for collecting dropping and feeding evidence.

Target notes are made when appropriate to highlight e.g. protected species or an 'other feature(s)' of ecological note.

If a deviation from the guidelines has been made the reason and justification will be explained below: -

No deviation from the standard guidelines has been made for this survey.

2.1 Surveyors

The survey and reporting was led by Martin O'Connor Dip, BSc (Hons), CBiol, MRSB. Martin has extensive experience as a professional ecologist, providing support and technical input on a wide range of projects.

2.2 Limitations

This survey provides a snap –shot of the site at the time of the survey(s) only. Species are highly mobile and can and do turn-up from time to time unexpectedly. All care has been taken to ensure the results and recommendations are suitable to the context of the development and the information gathered on surveys.

Table 1: Habitat value (likelihood) of protected species presence assessed against Collis (2016), Edgar *et al* (2010) and NE (2007) etc.

Likelihood of species presence (Habitat Value)	Features that species can and will use, regardless of evidence being present.
Confirmed Presence	Species are found to be present during the survey. Evidence of species is found to be present during the survey.
Higher likelihood of presence.	Buildings, trees or other structures with features of particular significance for use by protected species e.g. nesting habitat, roosting opportunities, and ponds. Habitat of high quality for foraging e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting species e.g. river and or stream valleys and hedgerows. Site is close to known locations of records for protected species.
Moderate and Lower likelihood of species presence.	Several potential habitat opportunities in buildings, trees or other habitats. Habitat could be used for foraging e.g. trees, shrub, grassland or water. Site is connected with the wider landscape by linear features that could be used by commuting species e.g. lines of trees and scrub or linked back gardens. A small number of less significant habitat opportunities. Isolated habitat for foraging e.g. a lone tree or patch of scrub. An isolated site not connected by prominent linear landscape features.
Negligible likelihood of species presence.	No features suitable for roosting, minor foraging or commuting.

3.0 Results

The following section details the results of the desk study, inspection and survey, it includes MAGIC information, biological records data and map/aerial photo information. The results detail the building, structure or tree (numbered for reference) description of any evidence found and habitat value if no evidence has been located.

3.1 Desk Study

The desk study is centred on Grid reference – SU 9473406138 and postcode – PO20 3RX

Table 2: Weather records –

Temperature	20
Cloud cover	25
Precipitation	none
Wind	0/8

3.2 Magic:

The following statutory sites have been located on the search (2km) see Figure 1 –

- There are no SSSI's in the search area
- A single bat EPS license 2016 – 24108 has been issued approx. 1.8km to the south of the site.

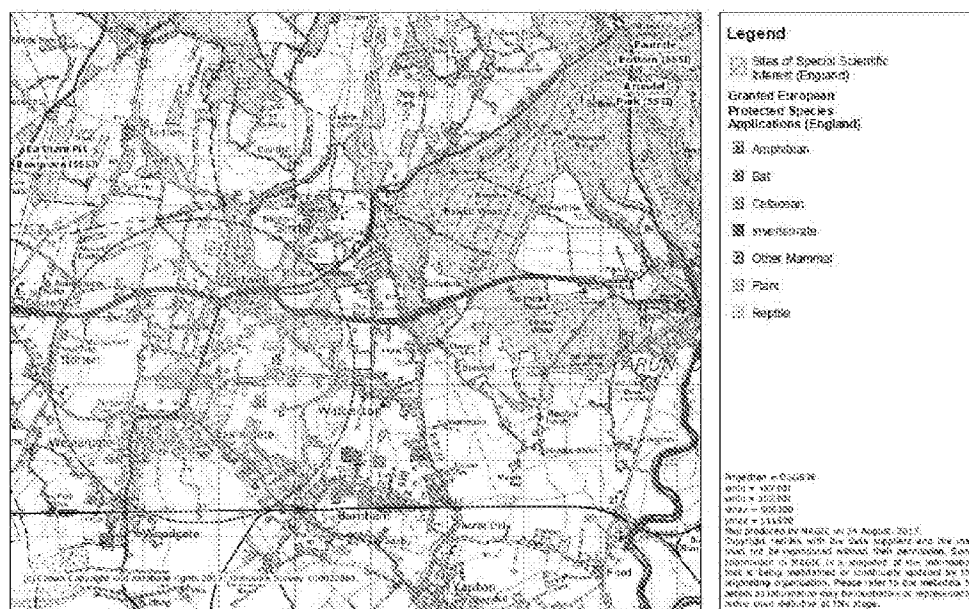


Figure 1: Magic search

3.3 Biological Records Data:

A standard 1km or 2km data search of existing records for protected species and nature reserves has been commissioned, below details the results and site context:

Biological records were obtained from Sussex Biodiversity Records Centre (SBRC, 2017).

There are no statutory designations located within the study area, however, there are two non-statutory designations listed. These are:

- Local Wildlife Site (LWS) –Fontwell Park race course located 0.2 kilometres west of the proposed development. Fontwell Park racecourse is managed as a hay meadow and the swards are very species rich. Notable species included in the sward are Adders tongue fern (*Ophioglossum vulgatum*) and Green winged orchid (*Orchis morio*). The site lies over calcareous alluvium and most of the grassland is classified as unimproved.
- Notable verge- Barnham Road at Eastergate situated approximately 0.6 kilometres south of Nova Paddocks

- A number of bat records are present for the study area. These are summarized in table form below.

Table 3 Summary of bat records from 1980 onwards.

Scientific name	Common Name	Earliest Record	Latest record	Number of Records
<i>Barbastella barbastellus</i>	Western barbastelle		2015	10
<i>Pipistrellus sp</i>	Pipistrelle species	22/05/2010	07/11/2014	3
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	01/07/1984	31/07/1984	3
<i>Plecotus auritus</i>	Brown long eared	11/05/2005	2014	1

Of the above species records a number of maternity roosts have been noted, one Barbastelle, in a tree (Slindon Woods) and two Brown long eared. All these maternity roosts are approximately one kilometre from the site (Slindon Woods) just overlaps the study area in the south west corner of the one kilometre radius.

In respect of other protected faunal groups, there is one old record for Common lizard (*Zootoca vivipara*) from 01/01/1998

3.4 Site Location and Surrounds:

The site is located in Fontwell, West Sussex and is surrounded by busy roads along the southern and western boundaries, beyond these roads, aerial photography suggests agricultural land covering much of the surrounding landscape with isolated farms. The site is buffered from the adjacent busy roads by mature hedgerows immediately juxtaposing the east and western boundaries. The southern boundary abuts a private garden and dwelling house. Table 4 details the connectivity, feeding and habitat features for protected species, in a 1km radius of the site.

Table 4: Habitat features suitable for use by protected species

Feature	Description
Water course	Four chalk streams shown to the south, south west and south east of the survey site, the nearest terminating approximately 0.6 kilometres south east of the site.
Water bodies	Three small bodies of standing water, the nearest approximately 0.1 kilometres south west of the site with two others approximately 0.8kilometres north east of the site proposed for development. It is noted that connectivity to the nearest water body is broken by a busy road.
Woodland	No woodlands are evident in the habitats map provided by West Sussex Biodiversity Centre
Linear e.g. hedgerows	No hedgerows are present within the site boundary, however, mature hedges do immediately abut the western and eastern site boundaries. Land immediately to the north of the site is open paddock. There is some connectivity of hedgerows radiating out from the immediate locality, particularly west of Fontwell Avenue, providing a measure of connectivity for mobile fauna.
Pasture/arable	No pasture or arable land is shown in the biodiversity report, but aerial photography does suggest agricultural land to the west of the site. It is unclear whether this is arable or pasture.
Other	Traditional orchards seem to be a feature within the search area with the largest and most significant orchard located immediately south of the site juxtaposing Eastergate Lane. There are other much smaller traditional orchards scattered throughout the study area to the north east, north west and west of the proposed development.

3.5 Habitat, Building, Tree or Other Structure

The following section details the structures/habitat reference, description, evidence located and likelihood of species presence (see Figure 7 for site plan).

3.6 Habitats

3.6.1 Buildings

There are no buildings on site that will facilitate use of a place of shelter and protection by protected bats. The only structure is a corrugated tin roof on wooden supports at the north-eastern end of the site, this structure is completely open on one side and offers no notable opportunity for purchase and/ or concealment for crevice dwelling bats.



Figure 2: Wooden structure with corrugated roof.

3.6.2 Hard standing

The access track immediately off Eastergate Lane is hard standing (tarmac), there are also several isolated stands of concrete along the western boundary.

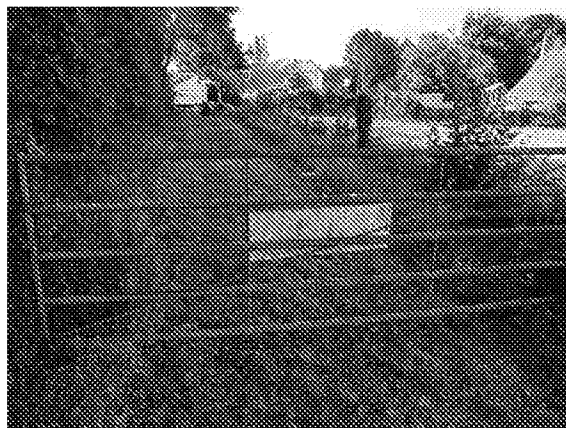


Figure 3: Access track from Eastergate Lane



Fig 4: Concrete hard standing adjacent to western boundary

3.6.3 Amenity

No amenity land is present.

3.6.4 Trees

No trees are present

3.6.5 Scrub

Scrub minimal, a handful of Elder bushes on the eastern side of the site, just within the boundary barely fit the term scrub, also some bramble scrub sparsely abuts field margins



Fig 5: Scrub

3.6.6 Tall Ruderal

A number of tall ruderal species are present including Hogweed (*Heracleum sphondylium*), Creeping thistle (*Cirsium arvense*), Dock sp (*Rumex sp*), Spear thistle (*Cirsium vulgare*) Stinging nettle (*Urtica dioica*) and Cocksfoot (*Dactylis glomerata*).



Fig 6: Tall ruderal vegetation

3.6.7 Woodland

No woodland is present.

3.6.8 Ponds

No ponds are present.

Table 4: Target notes for Fig 7 Site Plan (page 18)

Target Note	Description
T1	Concrete areas of hard standing
T2	Tarmac access track
T3	Wooden structure with corrugated roof, surrounded by tall ruderal vegetation.
T4	Log pile; basking potential for protected reptiles.
T5	Soil pile, covered with tall ruderal vegetation, may provide hibernation potential for protected reptiles.

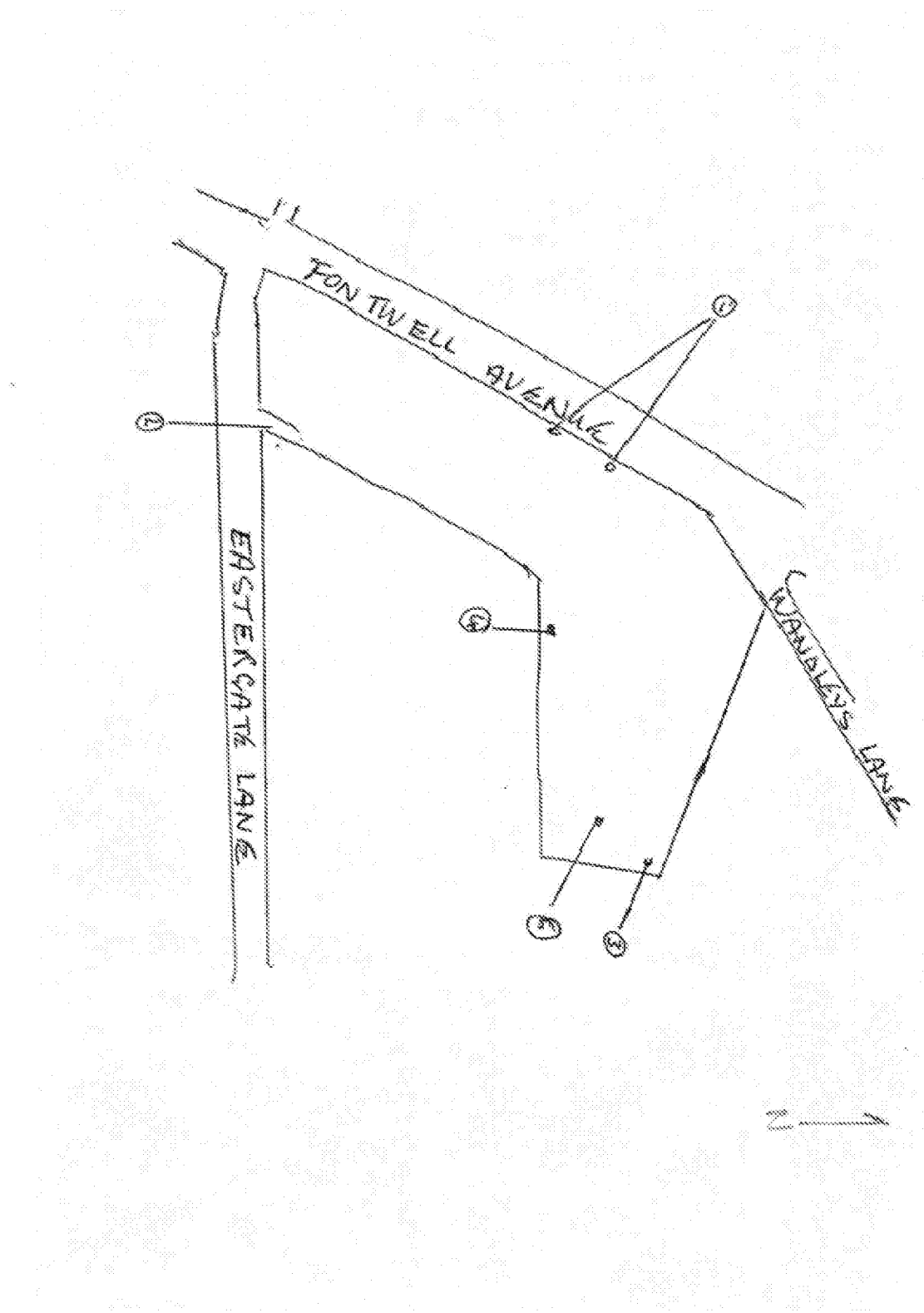


Fig 7: Site Plan

3.7 Species List

Hogweed (*Heracleum sphondylium*) O, Ground ivy (*Glechoma hederacea*) LF, False Oat grass (*Arrhenatherum elatius*) LF, Ivy (*Hedera helix*) LD, Stinging nettle (*Urtica dioica*) LD, Elder (*Sambucus nigra*) LF, Hedge woundwort (*Stachys sylvatica*) O, Creeping thistle (*Cirsium repens*) LF, Lesser burdock (*Arctium minor*) LF, Cocksfoot (*Dactylis glomerata*) F, Sloe blackthorn (*Prunus spinosa*) LF, Ragwort (*Senecio jacobaea*) O, Stone parsley (*Sisum amomum*) LF, Wood dock (*Rumex sanguineus*) LF, Yarrow (*Achillea millefolium*) F, Bittersweet (*Solanum dulcamara*) O, Bramble sp (*Rubus sp*) LA, Hedge garlic (*Alliaria petiolata*) LF, Spear thistle (*Cirsium vulgare*) O, Creeping buttercup (*Ranunculus repens*) F, Narrow leaved plantain (*Plantago lanceolata*) O, Dandelion sp (*Taraxacum sp*) O, Clover sp (*Trifolium sp*) LF, Geranium sp (*Geranium sp*) LA, Oxe eye daisy (*Leucanthemum vulgare*) LF, Perforate st Johns wort (*Hypericum perforatum*) LF, Lesser trefoil (*Trifolium dubium*), Red dead nettle (*Lamium purpureum*) O, White dead nettle (*Lamium album*) O, White bryony (*Bryonia dioica*) O, Knotgrass (*Polygonum aviculare*) LF, Autumn Hawkbit (*Leontodon autumnalis*) LF, Musk mallow (*Malva moschata*), R, Red campion (*Silene dioica*), O, Common mouse ear (*Cerastium fontanum*) O, Greater burdock (*Arctium major*) O, Fleabane (*Pulicaria dysenterica*) LF, Scarlet pimpernel (*Anagallis arvensis*) LF, Hedge bindweed (*Calystegia sepium*), LF, Prickly sow thistle (*Sonchus arvensis*) R, Black knapweed (*Centaurea nigra*) LF, Bent sp (*Agrostis sp*) F, Bracken (*Pteridium aquilinum*) LF

3.8 Evidence or Likelihood of Species Presence

3.8.1 Bats

Bat are likely to be foraging and/or commuting along the linear hedgerows abutting the south, east and western boundaries. No suitable structures, natural or man- made were found on the site that would provide opportunity for shelter and protection.

3.8.2 Badgers

No evidence of Badger activity was found on site.

3.8.3 Breeding Birds

Potential for breeding birds very limited, no evidence was noted.

3.8.4 Amphibian

Given the lack of any suitable standing bodies of water on site for breeding amphibians are unlikely to be present. There is one standing body of water within 0.1 kilometres of the site, however, a busy main road breaks connectivity to the terrestrial habitat on site.

3.8.5 Reptile

There is suitable habitat around the periphery of the site offering shelter and forage for reptiles, a pile of logs and spoil heaps which are now heavily vegetated also offer habitat. The spoil heaps and log piles are likely to offer suitable hibernation opportunities; areas of hard standing provide good basking opportunities, whilst prior to hay cutting, tall grassland vegetation will also provide forage and shelter.

3.8.6 Other Mammal e.g. dormouse

The surrounding landscape offers limited connectivity for these arboreal mammals. Tall grassland will provide habitat and food for small mammals such as field vole.

3.8.7 Invasive none/native

No such species were found.

4.0 Conclusions, Discussion and Recommendations

The following section details the conclusions, discussion and recommendations in the context of the proposed works.

4.1 Conclusion, Discussion and Potential Impacts

The site at present can be described at best, as semi improved grassland with pockets of species poor nutrient rich rank grassland. The presence of locally dominant species such as Stinging nettle indicate nitrogen enrichment and a succession towards a species poorer plant community with a decrease in overall biodiversity.

Semi improved grassland with stands of dominant tall ruderals is not very high in species richness. However, this habitat will still provide forage and shelter to a number of small mobile

fauna including mammals and insects. The loss of this will be the main impact of this proposed development.

There is very limited opportunity for birds nesting on site with some Bramble scrub along the boundaries with a few small Elderberry bushes dotted along the far eastern boundary.

In respect of protected species, in terms of habitat loss, the only faunal group that could suffer any significant impact are reptiles. Other faunal groups are unlikely to suffer any significant impact in terms of habitat loss. The feeding patterns of bats may be adversely affected by lighting of the proposed development; however, this can be mitigated for.

The non-statutory designated sites will not be negatively impacted by this development.

4.2 Recommendations

Lighting on a new development can adversely affect the behavior of commuting and foraging bats. It is recommended where possible, low pressure sodium lamps instead of mercury or halide lamps are used to minimize light pollution. Lighting should be directed where it is needed and spillage onto adjacent hedgerows avoided. A variety of accessories can be incorporated into design to achieve this, such as use of hoods, cowls, louvres and shields to direct the light where it is needed and avoid spillage where it is not. The height of lighting columns should be as short as possible as light at low level is likely to have less impact. Where taller columns are needed, light should be directed downward at a more acute angle, thus reducing horizontal spill. With pedestrian lighting, a form of low level lighting that is as directional as possible and below 3 lux at ground level is recommended. Timing of lighting is important and limits should be placed to allow some dark periods; trackways and roads can be important for foraging and commuting and unlit stretches of at least ten metres in length should be left either side of potential commuting routes.

Any scrub clearance or removal of woody shrubs should be done outside the generally recognized bird breeding season (Late February to September), if this is not possible an ecologist should check for any signs of breeding activity prior to clearance.

Opportunities should be taken to extend connectivity throughout the development to enhance biodiversity, with native species. For example, the existing hedges can be linked with planting of mixed native hedging along the open northern boundary, adjacent to paddocks, as well as the southern boundary. The access drive also offers opportunities to extend planting.

Considering the possibility of reptiles being present on site, dedicated reptile surveys should be conducted by surveyors experienced in this work. April, May, June and September are optimum months for this work, though under suitable environmental conditions it can be carried out throughout the spring and summer season. Appropriate refugia will need to be laid out prior to commencing the survey along recommended guidelines of good practice. A minimum of seven visits will be required to reasonably assume presence or absence.

5.0 References

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