



Ecological Survey Report

Henthorn Road, Clitheroe

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1 EXECUTIVE SUMMARY

1. This report presents the results of ecological surveys carried out at land off Henthorn Road, Clitheroe, Lancashire. The survey was carried out on 7th June 2012 by Will Holden of RSK, and comprised a Phase 1 Habitat Survey and an assessment of the habitat for protected vertebrates.
2. The site comprises a triangular parcel of land, predominantly devoted to agricultural grassland with field boundaries composed of hedgerows and lines of trees. A shallow stream runs across the western end of the site. The site is bordered on the north-west by residential properties and gardens, to the south by agricultural grassland and to the north east by Henthorn Road with agricultural grassland beyond.
3. Taking into consideration the geographical region and the habitat types, protected animals that could be encountered are:
 - Badger;
 - bats;
 - Great Crested Newts;
 - Water Voles;
 - nesting birds; and
 - common reptiles.
4. The site is located in a relatively green area to the south west of Clitheroe, where green space extends to the south and west of the site. The site does not have any 'ancient habitats' (in the sense of Rackham, 1980), and the habitats on the site are generally common in the wider landscape.
5. Several of the hedgerows along the boundary of the site (*Target Notes 2, 4, 5, 7 and 13*), have a diverse range of woody species. If these hedgerows are wholly or partially due for removal as part of the proposals, it is recommended that further botanical surveys of the hedgerows are conducted in order to assess whether they meet the qualifying features for important hedgerows under the Hedgerow Regulations (1997).
6. The survey was sufficient to conclude that Badgers are not present on the site, and no setts were recorded. Should work not commence within the next 6 months, as Badger are a highly mobile species, a repeat survey should be conducted to confirm the findings of this survey.
7. The trees within the hedgerows have some suitability for roosting bats. It is recommended that if these trees are due for removal, a ground level tree inspection should be conducted in order to assess the roost potential of the trees.
8. The habitats on the site are suitable for foraging and commuting Great Crested Newts. Although it was not possible to access the ponds to the north of the site, due

to the lack of records and distance of the ponds (in excess of 250m) it is not anticipated that Great Crested Newts are present on site. No further surveys are required.

9. The watercourse is heavily shaded, cattle-poached, shallow and has no aquatic vegetation. No signs of Water Vole were recorded, therefore no further surveys are required.
10. To ensure compliance with legislation protecting nesting birds, removal of vegetation that might be used by nesting birds should only be carried out outside the nesting season (March to August inclusive). If this is not possible, then the vegetation should be checked for nests immediately prior to removal.
11. Although the habitats on the site are suitable foraging and basking habitat for reptiles, as no records were returned for the local area, no further surveys are required.

2 INTRODUCTION

2.1 Purpose of this Report

This report presents the results of ecological surveys carried out at land off Henthorn Road, Clitheroe, Lancashire (OS Grid Reference SD 732 407). The survey was carried out on 7th June 2012 by Will Holden of RSK, and comprised a Phase 1 Habitat Survey and an assessment of the habitat for protected vertebrates. The site location is shown in *Figure 1*.

2.2 Ecological Context

The site comprises a triangular parcel of land, predominantly devoted to agricultural grassland with field boundaries composed of hedgerows and lines of trees. A shallow stream runs across the western end of the site. The site is bordered on the north-west by residential properties and gardens, to the south by agricultural grassland and to the north east by Henthorn Road with agricultural grassland beyond. The surrounding landscape is similarly composed of agricultural grassland and field boundaries formed by hedgerows. The residential and small commercial properties within Clitheroe are located approximately 1km north-west of the site.

2.3 Structure of this Report

The remainder of the report is structured as follows:

- Section 3 describes the survey methods;
- Section 4 contains the results;
- Section 5 details the ecological evaluation and recommendations for the site; and
- Section 6 lists the documents referred to in this report.

3 METHODS

3.1 Background Data Search

Background sources were consulted for records of statutory and non-statutory designated sites and protected and notable species within 2 km of the site boundary. The sources contacted were:

- Lancashire Environmental Record Network (Biological Records Centre);
- Natural England; and
- Multi-Agency Geographic Information for the Countryside (MAGiC).

3.2 Phase 1 Habitat Survey

Will Holden of RSK undertook the Phase 1 Habitat Survey on the 7th June 2012. Phase 1 Habitat Survey is the most widely-used UK methodology for cataloguing and mapping wildlife habitat resources over extensive areas. All habitats in the survey area were mapped using standard colour codes. Target Notes describe habitats and ecological features of interest. The methodology for this survey follows guidance given in the *Handbook for Phase 1 Habitat Survey: A technique for environmental audit* (JNCC, 2003).

3.3 Habitat Assessment for Protected Species

3.3.1 General

The site was assessed for its suitability for protected vertebrates. Obvious signs and incidental sightings of protected species would have been noted if found, although a single visit cannot usually confirm a species' presence or absence. Details of the survey methodology for each species are given below.

Taking into consideration the geographical region and the habitat types, protected animals that could be encountered are:

- Badger;
- bats;
- Great Crested Newts;
- Water Voles;
- nesting birds; and
- common reptiles.

Other species listed on the UK or Lancashire Biodiversity Action Plan were also considered. A summary of the legal protection of the relevant animals is provided in Appendix B. Details of survey methods for each species are given below.

3.3.2 Badger

A detailed survey was carried out of the site and all suitable areas within 30m of the site boundary for signs of Badger (*Meles meles*) activity including setts, foraging signs, paths (runs) and latrines. The entire survey area was assessed to identify areas that might be used by Badgers for sett building or foraging, and incidental signs of Badger including setts, foraging signs, paths (runs) and latrines were noted.

3.3.3 Bats

Habitats were assessed for their suitability for roosting, foraging and commuting bats. Suitable trees were assessed for their potential to support roosting bats. These include suitable cracks, splits and fissures. Areas of particular interest for foraging and commuting vary between species, but generally include sheltered areas and those habitats with good numbers of insects, such as woodland, scrub, hedges, watercourses, ponds, lakes and more species-rich or rough grassland.

3.3.4 Great Crested Newt

The suitability of aquatic and terrestrial habitat on the site and in the immediate vicinity (up to 500 m where access allowed) was considered for suitability to support this species, together with the habitat-connectivity of between the site and suitable habitat areas outside the site boundary.

3.3.5 Water Vole

A survey was carried out of any suitable watercourses and ditches for signs of Water Vole (*Arvicola amphibius*) activity including burrows, foraging signs, footprints and latrines.

3.3.6 Nesting Birds

Habitat that might be used by nesting birds was identified. Habitat was searched for evidence of bird nests, although surveys cannot conclusively establish which birds nest here.

3.3.7 Reptiles

The site was assessed for reptiles, with particular attention paid to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (rough grassland and scrub). Sightings of reptiles would have been recorded if encountered.

The site was assessed for its suitability for each of the four common reptile species. Specific habitat requirements differ between species. Common Lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to walls and pastures, although one of their favoured habitats is rough grassland. Slow-worms (*Anguis fragilis*) use similar habitats to Common Lizards, and are often found in rank grassland, gardens and derelict land. Grass Snakes (*Natrix natrix*) have broadly similar requirements to

Common Lizards with a greater reliance on ponds and wetlands, where they prey on Common Frogs (*Rana temporaria*). Adders (*Vipera berus*) use a range of fairly open habitats with some cover, but are most often found in dry heath (Beebee & Griffiths 2000).

3.4 Survey Constraints

This data is relevant for a maximum of 12 months. If more than one year elapses prior to commencement of the development it may be advisable to conduct a further ecology survey to ensure up-to-date information.

Water bodies have been identified from aerial photography and Ordnance Survey mapping within 500m of the site, however access to these areas was not possible.

4 RESULTS

4.1 Background Data Search

4.1.1 Designated Sites

There are no statutory designated sites within the 2km search area. There are nine non-statutory designated sites within 2km of the search area. The closest non-statutory designated site is the *River Ribble from London Road Bridge Preston, in West, to County Boundary in East* Biological Heritage Site (BHS) located approximately 320m west of the development site. All non-statutory designated sites are too far from the development site to be impacted by the development.

4.1.2 Noteworthy Species Records

No records of protected species were returned for the site. Records for Water Vole, Badger and Common Pipistrelle were returned within the 2km search area.

4.2 Habitat Types

4.2.1 Overview

The site comprises predominantly agricultural grassland and hedgerows. The survey area (termed 'the site' throughout this report) includes all areas within the red line boundary (see *Figure 1*) and within a 30m buffer of the red line boundary. The site contains the following habitat types:

- semi-improved neutral grassland;
- hedgerows and trees; and
- watercourses.

4.2.2 Semi-Improved Neutral Grassland

The majority of the habitat across the site is devoted to farmland. This is characterised by agriculturally semi-improved neutral grassland. Towards the western end of the site, this grassland has a long, dense sward approximately 50cm high and appears to be used for hay production. The habitat is dominated by *Alopecurus pratensis* (Meadow Foxtail) and *Holcus lanatus* (Yorkshire-fog) with scattered *Lolium perenne* (Perennial Rye-grass) and *Poa trivialis* (Rough Meadow-grass). Broad-leaved herbs present include *Anthriscus sylvestris* (Cow Parsley), *Cardamine pratensis* (Cuckooflower), *Cerastium fontanum* (Common Mouse-ear), *Cirsium arvense* (Creeping Thistle), *Geranium robertianum* (Herb-Robert), *Potentilla anserina* (Silverweed), *Ranunculus acris* (Meadow Buttercup), *Ranunculus repens* (Creeping Buttercup), *Rumex acetosa* (Common Sorrel), *Rumex obtusifolius* (Broad-leaved Dock), *Urtica dioica* (Common Nettle) and *Vicia sepium* (Bush Vetch).

Over the remainder of the site, the grassland is composed of the same species, with additional *Trifolium repens* (White Clover), however, it has a shorter, more open sward approximately 25cm high, due to heavier grazing by cattle.

4.2.3 Hedgerows and Trees

The field boundaries across the site and along the site boundary are predominantly formed by hedgerows, some of which have a large proportion of semi-mature and mature trees. On the whole, these hedgerows are composed of *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn) and *Prunus spinosa* (Blackthorn) with scattered *Fraxinus excelsior* (Ash) and *Sambucus nigra* (Elder) and a ground layer dominated by the semi-improved grassland species found within adjacent grassland habitats. In addition, the ground layer contains some semi-ruderal species such as *Alliaria petiolata* (Garlic Mustard), *Anthriscus sylvestris* (Cow Parsley), *Filipendula ulmaria* (Meadowsweet), *Galium aparine* (Cleavers), *Rosa canina* (Dog-rose) and *Urtica dioica* (Common Nettle). The hedgerows are predominantly between 3m and 4m high, up to 5m thick and not regularly cut. Whilst some are dense, most are gappy with paths through created by cattle.

The hedgerow forming the boundary between the site and Henthorn Road, is different. It is a dense hedgerow which, unlike the others, is regularly cut to approximately 1.5m high and 2m wide and dominated by *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn) and *Prunus spinosa* (Blackthorn) with scattered *Fraxinus excelsior* (Ash) and *Sambucus nigra* (Elder). The ground layer is composed of semi-improved grassland and roadside verge species including *Alopecurus pratensis* (Meadow Foxtail), *Filipendula ulmaria* (Meadowsweet), *Galium aparine* (Cleavers), *Holcus lanatus* (Yorkshire-fog), *Mercurialis perennis* (Dog's Mercury), *Urtica dioica* (Common Nettle) and *Vicia sepium* (Bush Vetch).

The trees within the hedgerows around the site are predominantly *Fraxinus excelsior* with *Quercus robur* (Pedunculate Oak) present in places. The trees include semi-mature and mature specimens between 10m and 20m tall with varying degrees of ivy claddings and some cracks, splits and broken branches present on the more mature specimens.

4.2.4 Watercourses

A single watercourse is culverted under Henthorn Road and flows across the western end of the site. The stream is shallow, approximately 1m wide and 0.1m deep and flows along the base of a hedgerow. The stream widens out to approximately 2m at the point where it enters the site from a culvert under Henthorn Road at the north western site boundary. The stream is shaded on one side by the adjacent hedgerow and bankside vegetation on the other bank is composed of grassland and semi-ruderal species including *Epilobium hirsutum* (Great Willowherb), *Filipendula ulmaria* (Meadowsweet) and *Phalaris arundinacea* (Reed Canary-grass). In places, the stream banks are heavily poached by cattle.

4.3 Habitat Assessment for Protected Species

4.3.1 Badgers

The habitat on and surrounding the site is suitable for Badger foraging, particularly the semi-improved grassland. However, no evidence of Badger or Badger setts were recorded.

4.3.2 Bats

Some of the trees within the hedgerows contain cracks, splits and are covered in ivy. These represent potential bat roosting habitat. Particularly the hedgerows and grasslands provide suitable bat foraging and commuting habitat.

4.3.3 Great Crested Newts

There are no ponds on site and no access was possible to the two ponds approximately 250m north of the site. The habitats on the site offer suitable foraging and commuting habitat for Great Crested Newts, in particular the long grassland and hedgerows.

4.3.4 Water Vole

The stream is not suitable for Water Vole due to the lack of aquatic vegetation, shallow nature and extensive cattle poaching. No incidental signs of Water Vole were recorded during the survey.

4.3.5 Nesting Birds

The hedgerows and areas of grassland on the site provide habitat suitable for nesting birds.

4.3.6 Common Reptiles

The semi-improved grassland is suitable for foraging and basking reptiles. The hedgerows offer suitable refuges, including for hibernation.

5 EVALUATION AND CONCLUSIONS

5.1 Botanical

5.1.1 Overall Value

Based on a brief review of aerial photography, the site is located in a relatively green area to the south west of Clitheroe, where green space extends to the south and west of the site. The site does not have any 'ancient habitats' (in the sense of Rackham, 1980), and the habitats on the site are generally common in the wider landscape.

5.1.2 Semi-Improved Neutral Grassland

The semi-improved grassland is not particularly species-rich and is a common habitat within the local area. It is of site-level ecological value and no further botanical surveys are required.

5.1.3 Hedgerows

Several of the hedgerows along the boundary of the site (*Target Notes 2, 4, 5, 7 and 13*) have a diverse range of woody species. If these hedgerows are wholly or partially due for removal as part of the proposals, it is recommended that further botanical surveys of the hedgerows are conducted in order to assess whether they meet the qualifying features for important hedgerows under the Hedgerow Regulations (1997).

5.1.4 Watercourses

The watercourse is heavily-shaded, shallow and has no aquatic vegetation. It has ecological value at site level only. No further ecological surveys are required.

5.2 Protected Vertebrates

5.2.1 Badgers

The survey was sufficient to conclude that Badgers are not present on the site, and no setts were recorded. Should work not commence within the next 6 months, as Badger are a highly mobile species, a repeat survey should be conducted to confirm the findings of this survey.

5.2.2 Bats

The trees within the hedgerows have some suitability for roosting bats. It is recommended that if these trees are due for removal, a ground level tree inspection should be conducted in order to assess the roost potential of the trees.

5.2.3 Great Crested Newts

The habitats on the site are suitable for foraging and commuting Great Crested Newts. Although it was not possible to access the ponds to the north of the site, due to the lack

of records and distance of the ponds (in excess of 250m) it is not anticipated that Great Crested Newts are present on site. No further surveys are required.

5.2.4 Water Voles

The watercourse is heavily shaded, cattle-poached, shallow and has no aquatic vegetation. No signs of Water Vole were recorded, therefore no further surveys are required.

5.2.5 Birds

To ensure compliance with legislation protecting nesting birds, removal of vegetation that might be used by nesting birds should only be carried out outside the nesting season (March to August inclusive). If this is not possible, then the vegetation should be checked for nests immediately prior to removal.

If nests are found, they must be retained until the young have fledged. If these simple measures are implemented, then there will be no impacts on nesting birds.

5.2.6 Common Reptiles

Although the habitats on the site are suitable foraging and basking habitat for reptiles, as no records were returned for the local area, no further surveys are required.

6 REFERENCES

Joint Nature Conservation Committee (2003). *Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit* (revised reprint). Joint Nature Conservation Committee, Peterborough.

APPENDIX A: FIGURES

Figure 1 – Phase 1 survey map.



- Legend :
- Site Boundary
 - Semi-improved neutral grassland
 - Broad-leaved semi-natural woodland
 - Species-poor intact hedge
 - Running water
 - Scattered broad-leaved tree
 - Botanical target note



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Phase 1 Map

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APPENDIX B LEGISLATION

Badgers

Meles meles (Badger) is protected in Britain under the Protection of Badgers Act 1992 and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended).

The legislation affords protection to Badgers and Badger setts, and makes it a criminal offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

Bats

All species of British bat are protected by *The Wildlife and Countryside Act 1981* (as amended) extended by the *Countryside and Rights of Way Act 2000*. This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European Protected Species listed on *The Conservation of Habitats and Species Regulations 2010*. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats, including in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young; or (ii) hibernate or migrate, where relevant; or (b) to affect significantly the local distribution or abundance of the species to which they belong.
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present.

Great Crested Newt

Triturus cristatus (Great Crested Newt) is listed on *Schedule 5* of the Wildlife and Countryside Act 1981 (as amended), and receive full protection under *Section 9*. This species is also listed as European Protected Species on *Schedule 2* of the Conservation of Habitats and Species Regulations 2010 (SI 2010/490) which gives it full protection under Regulation 41. Protection was extended by the Countryside and Rights of Way Act 2000 (the CROW Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

The Great Crested Newt is included as Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as species of principal importance for the conservation of biological diversity in England under Section 74 of the CRow Act.

Birds

Birds general protection

All species of bird are protected under *Section 1* of the *Wildlife and Countryside Act 1981* (as amended). The protection was extended by the CRow Act.

The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

Birds (specially protected species)

Certain species of bird are listed on *Schedule 1* of the *Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The protection was extended by the CRow Act. The legislation confers special penalties where the above mentioned offences are committed for any such bird and also make it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependant young; or
- disturb the dependant young of such a bird.

Common Reptiles

Lacerta vivipara (Common Lizard), *Natrix natrix* (Grass Snake), *Anguis fragilis* (Slow-worm), and *Vipera berus* (Adder) are listed under *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the CRow Act.

Under the above legislation it is an offence to:

- intentionally or deliberately kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

APPENDIX C TARGET NOTES

Target Note 1. Agricultural grassland comprising much of the site characterised by semi-improved neutral grassland with a long, dense sward approximately 50cm high. The grassland appears to be used for hay production. The habitat is dominated by *Alopecurus pratensis* (Meadow Foxtail) and *Holcus lanatus* (Yorkshire-fog) with scattered *Lolium perenne* (Perennial Rye-grass) and *Poa trivialis* (Rough Meadow-grass). Broad-leaved herbs present include *Anthriscus sylvestris* (Cow Parsley), *Cardamine pratensis* (Cuckooflower), *Cerastium fontanum* (Common Mouse-ear), *Cirsium arvense* (Creeping Thistle), *Geranium robertianum* (Herb-Robert), *Potentilla anserina* (Silverweed), *Ranunculus acris* (Meadow Buttercup), *Ranunculus repens* (Creeping Buttercup), *Rumex acetosa* (Common Sorrel), *Rumex obtusifolius* (Broad-leaved Dock), *Urtica dioica* (Common Nettle) and *Vicia sepium* (Bush Vetch).

Target Note 2. Dense hedgerow forming the boundary between adjacent farm fields. The hedgerow is dominated by *Corylus avellana* (Hazel) and *Crataegus monogyna* (Hawthorn) with scattered *Fraxinus excelsior* (Ash), *Prunus spinosa* (Blackthorn) and *Sambucus nigra* (Elder). The hedgerow is approximately 4m high and 2m wide with a shallow stream at its base (*Target Note 3*). The ground layer, forming the banks of the stream, is composed of the semi-improved grassland species at *Target Note 1* with additional semi-ruderal species including *Alliaria petiolata* (Garlic Mustard), *Anthriscus sylvestris* (Cow Parsley), *Filipendula ulmaria* (Meadowsweet), *Galium aparine* (Cleavers), *Rosa canina* (Dog-rose) and *Urtica dioica* (Common Nettle). The hedgerow contains some larger *Fraxinus excelsior* (Ash) trees approximately 10m high.

Target Note 3. Shallow stream approximately 1m wide and 0.1m deep flowing along the base of a hedgerow. The stream widens out to approximately 2m at the point where it enters the site from a culvert under Henthorn Road at the north western site boundary. The stream is shaded on one side by the adjacent hedgerow and bankside vegetation on the other bank is composed of grassland and semi-ruderal species including *Epilobium hirsutum* (Great Willowherb), *Filipendula ulmaria* (Meadowsweet) and *Phalaris arundinacea* (Reed Canary-grass). In places, the stream banks are heavily poached by cattle.

Target Note 4. Hedgerow similar to that at *Target Note 2*, however, with no stream at the base. Instead, the ground layer is composed of rough grassland and semi-ruderal species.

Target Note 5. Hedgerow similar to that found at *Target Note 2* however it is sparse and gappy. The stream at *Target Note 3* flows along the base of the hedgerow. At the north western end of the hedgerow, it becomes wider and more dominated by semi-mature trees, including *Fraxinus excelsior* (Ash), forming a small area of woodland.

Target Note 6. Semi-improved grassland composed of the same species as at *Target Note 1*, with additional *Poa trivialis* (Rough Meadow-grass) and *Trifolium repens* (White Clover). This area of grassland contains a shorter, more open sward approximately 25cm high, due to increased cattle grazing.

Target Note 7. *Crataegus monogyna* (Hawthorn) hedgerow with scattered *Fraxinus excelsior* (Ash). The hedgerow is approximately 3m high and gappy in places. The ground layer is composed of species found in the adjacent semi-improved grassland with the addition of some semi-ruderal species including *Galium aparine* (Cleavers), *Urtica dioica* (Common Nettle) and *Veronica chamaedrys* (Germander Speedwell).

Target Note 8. Tall and gappy *Crataegus monogyna* hedgerow approximately 4m high formed along the base of a row of *Fraxinus excelsior* (Ash) trees between 10m and 15m high. The hedgerow ground layer is composed of species found in the adjacent semi-improved grassland with the addition of some semi-ruderal species including *Galium aparine* (Cleavers), *Urtica dioica* (Common Nettle) and *Veronica chamaedrys* (Germander Speedwell).

Target Note 9. Gappy *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn) and *Prunus spinosa* (Blackthorn) hedgerow approximately 3m high. As with *Target Note 8* the hedgerow is formed beneath a line of mature trees, principally *Fraxinus excelsior* (Ash) and *Quercus robur* (Pedunculate Oak) between 15m and 20m high. The hedgerow becomes denser and wider in places (up to 5m wide) particularly where bushes of *Prunus spinosa* (Blackthorn) occur. The ground layer is composed of *Prunella vulgaris* (Selfheal), *Rosa canina* (Dog-rose) and *Urtica dioica* (Common Nettle) along with the species found within the adjacent semi-improved grassland.

Target Note 10. Hedgerow with large gaps formed by pathways between fields used by cattle. The hedgerow is tall (approximately 4m) and wide (approximately 6m) and composed primarily of *Crataegus monogyna* (Hawthorn), *Prunus spinosa* (Blackthorn) and *Sambucus nigra* (Elder). There are large *Fraxinus excelsior* (Ash) trees up to 15m high in places. The ground layer is formed by semi-improved grassland species and semi-ruderals including *Rubus fruticosus* agg. (Bramble) and *Urtica dioica* (Common Nettle) with scattered suckering *Prunus spinosa* (Blackthorn) along the base.

Target Note 11. Gappy, open hedgerow bordering onto an adjacent farm yard. The hedgerow is approximately 4m tall and 4m wide composed of *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn) and *Prunus spinosa* (Blackthorn) with mature *Fraxinus excelsior* (Ash) trees up to 15m high. The ground layer is composed of the grassland species found within the adjacent semi-improved grassland.

Target Note 12. Line of separate *Crataegus monogyna* (Hawthorn) bushes approximately 5m high.

Target Note 13. Dense, regularly cut hedgerow forming the border between the site and Henthorn Road. The hedgerow is approximately 1.5m high and 2m wide and dominated by *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn) and *Prunus spinosa* (Blackthorn) with scattered *Fraxinus excelsior* (Ash) and *Sambucus nigra* (Elder). The ground layer is composed of semi-improved grassland and roadside verge species including *Alopecurus pratensis* (Meadow Foxtail), *Filipendula ulmaria* (Meadowsweet), *Galium aparine* (Cleavers), *Holcus lanatus* (Yorkshire-fog), *Mercurialis perennis* (Dog's Mercury), *Urtica dioica* (Common Nettle) and *Vicia sepium* (Bush Vetch).