

FIELDWORK *Ecological Services Ltd.*

(Kevin Cook B.Sc. and Associates)

ASSESSMENT OF ECOLOGICAL ISSUES
EAST OF BURTON, DORSET
For Christchurch Borough Council
Kevin Cook 23/4/2007

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ASSESSMENT OF ECOLOGICAL ISSUES EAST OF BURTON, DORSET

Survey dates: 7th, 19th February 2007
Surveyor: Kevin Cook

1. Introduction

1.1 Background

The survey site at Burton near Christchurch has been highlighted as an area for potential urban extension. As part of the review a basic ecological survey has been commissioned for the site. The site comprises of fields and woodland east of Burton and at Roeshot south of the railway and north of the Christchurch bypass (see plan 1).

1.2 The scope of the assessment

The survey conducted forms an ecological assessment to evaluate the site's importance for:

- a. Its proximity to sites designated statutorily or otherwise for their wildlife importance (SSSI, SNCI, LNR etc.)
- b. Other important wildlife habitats within or adjacent to the site.
- c. Checking for hedges that may be covered by the Hedgerow Regulations (HR).
- d. Identifying the use of the site by protected species: reptiles and amphibians, badgers, bats etc.
- e. Other species indicating enhanced biodiversity.
- f. Topographical, hydrological and geological features that enhance local biodiversity.

The terms 'protected' and 'fully protected' species refer to species protected under the Wildlife and Countryside Act 1981. Plant notable species are as defined by Environmental Records Centres as being indicators of natural or semi-natural habitats. Other terms such as 'common' or 'scarce' will be used as indicative of the general status of a species unless the species is particularly rare and notable where it will be further defined. Habitats and species may be further covered by other statutory and non-statutory devices including the Countryside and Rights of Way Act, EC Habitats Regulations and Bird Directives, the RSPB Birds of Nature Conservation Concern list, Hedgerow regulations and subject to Biodiversity Action Plans.

All the above have been used to evaluate the quality of the project site.

2. Protected and other notable sites (see Plan 1)

A data search was requested from the Dorset Environmental Records Centre (DERC) for any existing biological records and the location of any sites of ecological interest within 500 metres of the boundary of the search area. Two areas of interest were noted, none within the boundary of the search site.

These are:

1. Purewell Meadows SSSI (approximately 430 metres southwest of the survey area)
The reasons for the notification of Purewell Meadows as an SSSI include the description:

A series of unimproved wet meadows situated as a south easterly outlier of the Avon Valley SSSI. The complex system of fields and ditches presents a range of plant habitats including wet acidic grassland over peat and more neutral damp grassland which are an integral component of the meadows of the Avon Valley. Mature hedgerows, often with broad scrub margins, add to the interest and diversity of flowering plants of which 160 species have been recorded.

2. Somerford SNCI (less than 30 metres south of the survey area). This area comprises woodland, grassland and freshwater habitats, which make up the Mude Valley Nature Reserve in Christchurch.

There are no sites of International importance within 500 metres of the survey area boundary.

3. Existing data - datasearch from DERC

A datasearch for 500 metres around the survey site was conducted: species records are shown below.

Species	Common name	Priority Threat species status	Rarity status	Habitat indicator	Grid reference	Locality
<i>Anemone nemorosa</i>	Wood Anemone			DN	SZ194945	Roeshot Copse
<i>Ceratocapnos claviculata</i>	Climbing Corydalis			DN	SZ168935	Purewell Meadows (SMU 4)
<i>Ceratocapnos claviculata</i>	Climbing Corydalis			DN	SZ176938	Sopley Common (Comp N)
<i>Lychnis flos-cuculi</i>	Ragged Robin			DN	SZ168935	Purewell Meadows (SMU 4)
<i>Tilia cordata</i>	Small-leaved Lime			DN	SZ194945	Roeshot Copse
<i>Lavatera arborea</i>	Tree-mallow			DN	SZ194945	Roeshot Copse
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort			DN	SZ168935	Purewell Meadows (SMU 4)
<i>Succisa pratensis</i>	Devil's-bit Scabious			DN	SZ168935	Purewell Meadows (SMU 4)
<i>Conocephalus discolor</i>	Long-winged Conehead		NS(A)		SZ172945	Burton,Hawthorn Road
<i>Conocephalus discolor</i>	Long-winged Conehead		NS(A)		SZ177959	Hawthorn Farm
<i>Conocephalus discolor</i>	Long-winged Conehead		NS(A)		SZ181941	Ambury Lane
<i>Conocephalus discolor</i>	Long-winged Conehead		NS(A)		SZ181952	Hill Lane
<i>Conocephalus discolor</i>	Long-winged Conehead		NS(A)		SZ195946	Roeshot Hill
<i>Nemobius sylvestris</i>	Wood Cricket		NS		SZ193942	Highcliffe-on-Sea
<i>Chorthippus albomarginatus</i>	Lesser Marsh Grasshopper			DN	SZ1694	Burton,Avon Valley
<i>Chorthippus albomarginatus</i>	Lesser Marsh Grasshopper			DN	SZ177959	South Bockhampton
<i>Callophrys rubi</i>	Green Hairstreak			DN	SZ168934	Purewell Meadows
<i>Eurodryas aurinia</i>	Marsh Fritillary	UK			SZ168934	Purewell Meadows
<i>Euchoeca nebulata</i>	Dingy Shell			DR	SZ167935	Purewell Meadows
<i>Argiope bruennichi</i>	an orb-weaver spider			NS(A)	SZ1793	Purewell,Burton Road
<i>Lacerta vivipara</i>	Common Lizard				SZ170936	Peppercorn Farm, Purewell
<i>Anguis fragilis</i>	Slow-worm				SZ170936	Peppercorn Farm, Purewell
<i>Egretta garzetta</i>	Little Egret	AMBER				Burton
<i>Cygnus columbianus</i>	Bewick's Swan	AMBER				Burton
<i>Anas acuta</i>	Pintail	AMBER				Burton
<i>Scolopax rusticola</i>	Woodcock	AMBER			SZ1694	Burton
<i>Larus ridibundus</i>	Black-headed Gull	AMBER			SZ1793	Somerford,school playing fields
<i>Larus fuscus</i>	Lesser Black-backed Gull	AMBER			SZ1793	Somerford,school playing fields
<i>Larus argentatus</i>	Herring Gull	AMBER			SZ1793	Somerford,school playing fields
<i>Larus argentatus</i>	Herring Gull	AMBER			SZ1893	Somerford/Mudeford,industrial estates
<i>Pipistrellus pipistrellus</i>	Pipistrelle	UK			SZ162949	Burton,83 Priory View Road
<i>Pipistrellus pipistrellus</i>	Pipistrelle	UK			SZ163949	Burton,75 Moorcroft Avenue
<i>Pipistrellus pipistrellus</i>	Pipistrelle	UK			SZ164949	Burton,61 Moorcroft Avenue
<i>Pipistrellus pipistrellus</i>	Pipistrelle	UK			SZ166949	Burton,136 Salisbury Road

No existing records from within the survey area boundary were found.

Significant records in the vicinity are:

Wood cricket – a nationally scarce insect found in 1997 about 250 metres southeast of the eastern end of the Roeshot compartments. It is possible this could occur in the small woodland at the eastern end of Roeshot within the survey area.

Pipistrelle bats - recorded from houses a few hundred metres from the survey area and are very likely to use the fields for feeding flights.

4. Survey

4.1 General description

With the exception of two small woodlands (see 4.4) the rest of the site is intensive mixed farmland. There is perimeter hedging around all the fields and many have dividing hedges too (see 4.3). Some mature standard trees grow within the hedgelines. There are some ecologically poor conifer shelter belts. There are no ponds or other wetland features other than the River Mude that forms the County boundary and the eastern boundary of the survey site.

4.2 Field survey (see Plan 2)

The majority of the fields across the whole site are very poor ecologically. They are largely intensively farmed on an arable/grass ley rotation and there are no areas of unimproved habitats left with little botanical interest other than the usual selection of farmland and hedgerow plants. None of the grass verges display any relict flora from earlier habitats.

There are 4 exceptions to this, 3 fields used as permanent pasture and divided into paddocks and a grassy bank, marked with green hatching on the plan:

- a. Fields near Holly Gardens,
- b. Fields near Preston Lane,
- c. Fields south of Ambury Lane.
- d. A small bank in the northeast – probably a former hedge that has a good range of unimproved plants as it seems to escape agricultural improvement.

These all have more plant diversity, with a flora characteristic of moderately fertilised but relatively unintensively grazed acid grassland. There was no evidence during the winter survey of any notable plants but when compared to the rest of the site these paddocks showed a better value for wildlife than the rest of the farmland and could form a core for any nature conservation strategies in the future. The Ambury Lane paddocks at Roeshot had several nests of the meadow ant *Lasius flavus*, good indicators of unimproved grassland.

4.3 Field boundary survey (see Plan 2)

Field boundaries were mapped – on the following plan hedges reduced to fence lines are marked 'F', hedges that exist but are not ancient hedges are marked with a red cross, and hedges that are thick and 'better' ecologically (mainly thicker with value to nesting birds) are marked in turquoise lines. A single hedge in the east is marked with a blue line – this displays features that put it into the 'protected by Hedgerow Regulations' category.

The most important criteria for this are the number of woody species - a hedge is protected if there is an average of seven or more woody species within a selected 30 metres stretch. Other criteria are also used e.g. a hedge is also protected when it has five woody species plus four or more additional features as listed below.

- a. A wall or bank along half or more of the length
- b. A ditch along half or more of the length
- c. An average of one standard tree or more per 50m of hedgerow
- d. Gaps which do not add up to more than 10% of the hedge
- e. Three woodland species
- f. A parallel hedge within 15 metres
- g. Connections to a hedge (i), wood (ii) or pond (iii)

With the exception of a short length of primarily hazel hedge in the west, most hedges were of about two to three species, hawthorn *Crataegus monogyna* and sloe *Prunus spinosa* with maybe ash, oak etc. They are best described as recent and their hedgebanks do not display any flora of former woodland or old grassland. The rigorous trimming they receive has reduced their value to birds by keeping many of them open and low, without the depth and variety needed by wildlife.

4.4 Trees and woodland (see plan 3)

Standard trees were mapped and are marked with a blue 'S' on the plan. These include semi-mature and mature standard trees, mainly oaks *Quercus robur* but with some ash *Fraxinus excelsior*, though none could be described as 'veteran'. Red areas are groups of trees, that at the time of the survey were not displaying any flora of ancient woodland and are probably plantations. The small wood in the west is open with about 12 oak trees and a largely

bracken ground flora, the wood at the farthest eastern point of the Roeshot area is a mix of beech *Fagus sylvatica*. This wood might be worth checking for small leaved lime *Tilia cordata* when in leaf as it is recorded nearby. A deep bank at its southern boundary may indicate older origins of this woodland. Other woodland areas are plantation of non-native conifers with some non-native scrub (marked as brown regions on the plan) used as cover and feeding areas for gamebirds. These have no regional ecological value but may display some value to local wildlife such as rabbits, small mammals and common birds.

4.5 Species account

No fully protected species were found during the survey. Nor was there any evidence that any were likely. However there are some notable species that might be taken into consideration:

- a. Common reptiles, slow-worm *Anguis fragilis* and common lizard *Lacerta vivipara* have been found in the vicinity (see DERC datasearch) and it is likely that some may survive around the edges of fields and woodland in places, such as sites bordering woods, the River Mude and the railway.
- b. Skylarks were heard singing in several fields and are likely to nest here. (see Plan 3). These are on the RSPB's Birds of Conservation Concern RSPB's, Red Data Birds list (Rapid >50% decline in UK breeding population in the last 50 years).
- c. A single lapwing was seen in a southeast field so it is to be assumed that there is some moderate interest from this species during the winter. (see Plan 3).
- d. A range of typical common farmland and hedgerow birds were seen including buzzard *Buteo buteo* and the occupier of the semi-improved fields off Summers Lane has reported nesting sparrowhawk *Accipiter nisus*, little owl *Athene noctua*, and surprisingly lesser spotted woodpecker *Dendrocopos minor*. Common scrub nesting birds will nest in suitable hedges where they are deep enough to provide good cover.

No signs of badgers were found anywhere across the site, that is a very controlled agricultural environment. It is possible that in the past this species has been eliminated from the area.

No signs of watervoles *Arvicola terrestris* were found along the River Mude.

The status of the brown hare *Lepus europaeus* here is unknown, it is unprotected but has declined considerably.

The lack of plant diversity in the hedges coupled with early winter or late summer that removes berries and nuts reduces the value of the hedges to wintering birds and dormice *Muscardinus avellanarius* of which there were no signs.

The hedges are likely to be used by bats for feeding and the standard oaks have some crevice features that could provide summer roosting for species such as pipistrelle *Pipistrellus sp.* This can only be confirmed by summer surveys but it can be assumed that bats roosting in houses and trees will forage up and down the hedge lines and the River Mude in the summer months.

5. Summary of ecological survey

- a. There are no protected or Biodiversity Action Plan habitats within the survey area.
- b. Apart from bats (not surveyed for) no fully protected species are using the survey area.
- c. Some parts of the land are likely to support some common reptiles that are partially protected by the Wildlife and Countryside Act.
- d. There are no hedgerows protected by the Hedgerow Regulations Act within the area though there is a small stretch of boundary hedge in the northeast that is of older origin.
- e. Hedges will support a range of common nesting birds (see para. 6).
- f. Skylarks were noted and are likely to nest on the fields.

6. Summary of potential Issues and impacts

Below is a summary of some frequent vulnerable species seen in the survey area, their status, and potential impacts of any development

Species/group	Relevant Status	Impact of development	Comments	Mitigation/Compensation
Bats	? BC2 BoC2 ECH4	Low (local)	Loss of feeding territory.	This could be replaced by gardens, hedges and other planting of native species

	WCA5,6			
Skylark	BDP	High (local and regional)	Loss of 3-4 breeding pairs	Impacts cannot be compensated for but local populations can be aided by changes in farming techniques
Linnet	BC2 BDP	High (local)	Loss of feeding area	Marginal land for seed plants will be required
Greenfinch	BC2	High (local)	Loss of feeding area	As above
Robin <i>Erithecula rubecula</i>	BC2	High (local)	Loss of feeding and breeding sites	This could be replaced by gardens, hedges and other planting
Dunnock	BC2 BDMP	High (local)	Loss of feeding and breeding sites	As above
Common whitethroat	BC2	High (local)	Loss of feeding and breeding sites	Dense areas of managed scrub will be required
House sparrow	BDP	Low (local)	Loss of feeding area	Marginal land for seed plants will be required
Starling	BDP	Medium (local)	Loss of feeding area	As above

Status definitions:

BC2 – Berne Convention on the Conservation of European Wildlife and Natural Habitats (fauna to be protected against deliberate damage/destruction of nesting sites).

BoC2 – Appendix 1 of Bonn Convention – strict protection from virtually any threat.

PBA – Protection of Badgers Act.

WCA – Wildlife and Countryside Act 1981.

ECH4 – ECC Directive on the Conservation of Natural Habitats and wild Fauna and Flora (animal and plant communities in need of strict protection)

RSPB's Red Data Birds list:

BDP - (Rapid >50% decline in UK breeding population in the last 50 years)

BDMP – moderate (25-49%) decline in UK breeding population in last 25 years

7. Conclusions

7.1 Habitats

The land represents typical intensively farmed agricultural land. The fields are divided by fences, shelter belts and modern hedges. There are a few notable mature standard trees and the best dense hedges will be of local importance to common nesting birds although they are poor in plant species composition. Within the site there are no wetland features or ancient woodland. Small areas of semi improved grassland exist that are moderately species rich relative to agricultural leys but these are not extensive nor did they display any notable flora at the time of the initial survey.

Thus the land is relatively ecologically poor with reference to protected, notable or Biodiversity Action Plan habitats. However there is a characteristic range of species that use this type of landscape that includes some vulnerable species (bats and field and hedgerow birds for example).

7.2 Species

The only notable species on the site are farmland birds such as skylarks and linnets, probably common reptiles (not fully protected species) and probably use of hedges by feeding bats (not surveyed for). In terms of biodiversity the area is poor as would be expected when taking into account the current land management.

The skylark is the most significant species. This is typical of this type of landscape and the local population will be removed by development whereas habitats for other hedgerow birds, feeding for bats and habitat for slow-worms could be enhanced by compensation techniques. Impacts upon hedgerow and field species will inevitably be high in the short term. Common shrub nesting birds can be compensated for. The skylark can be assisted in the area by adopting certain farming practices such as leaving 'skylark plots' that are unseeded areas in the centres of fields, and providing 'beetle banks' and wide hedgerow verges to provide more insect feeding for them. This has proved successful in helping skylark survival in trials. Other wildlife of the open field such as buzzards, game birds, the occasional lapwing are also likely to suffer but well managed buffer strips could reduce the impacts upon these species.

7.3 Mitigation and Compensation

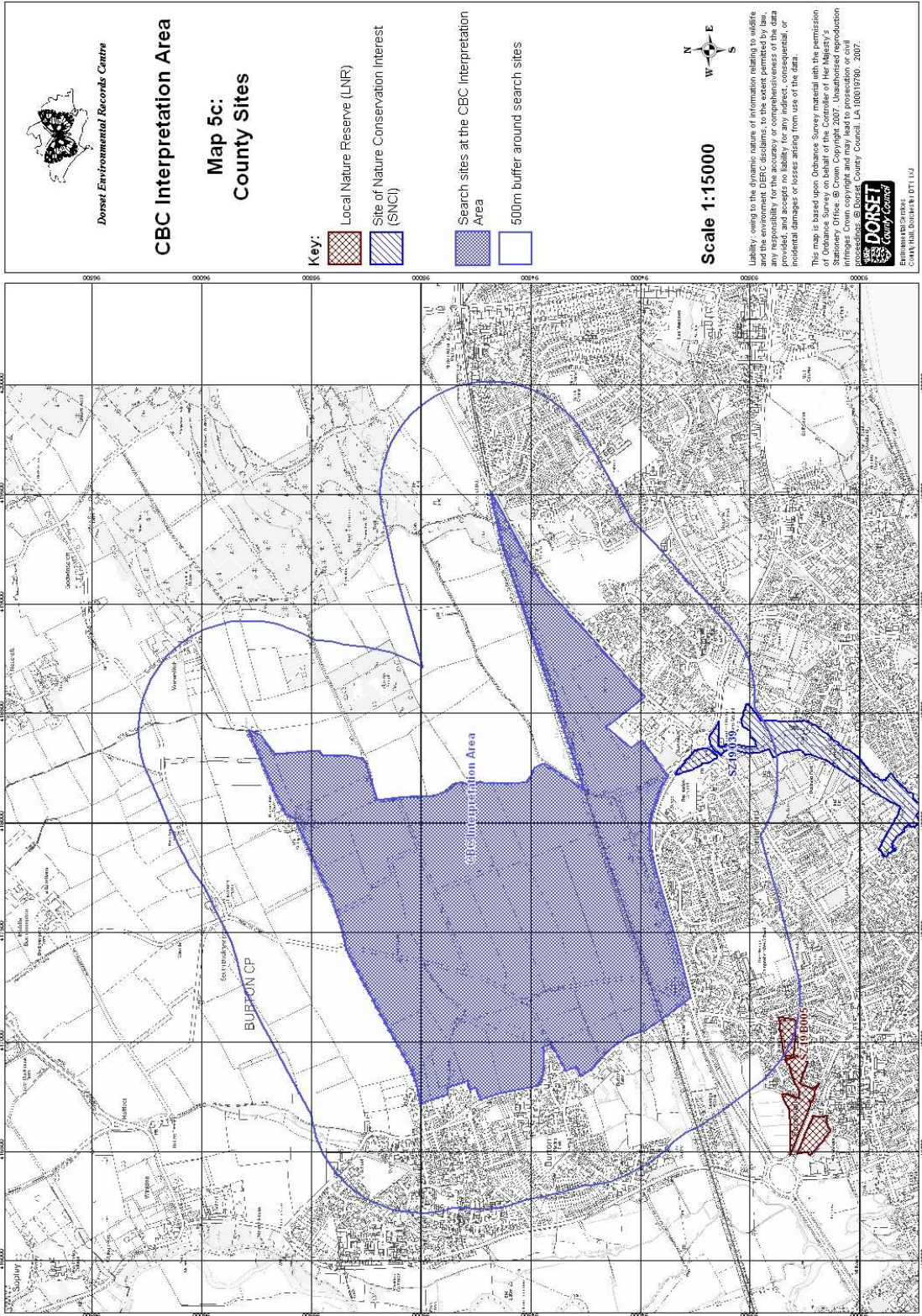
This paper is a survey document and is not for detailing mitigation and compensation techniques. However gardens and well designed networks of wilder land including tall sward grassland, native woodland, hedges and ponds, and the retention and enhancement of some of the better features will greatly enhance this area and will improve the wildlife potential of the land for common species (including bats) above its current state. There could be considerably more benefits to wildlife from well designed housing schemes and new species could be attracted to the area. The only exception to this is the skylark that cannot survive in a developed landscape.

8. Further surveys

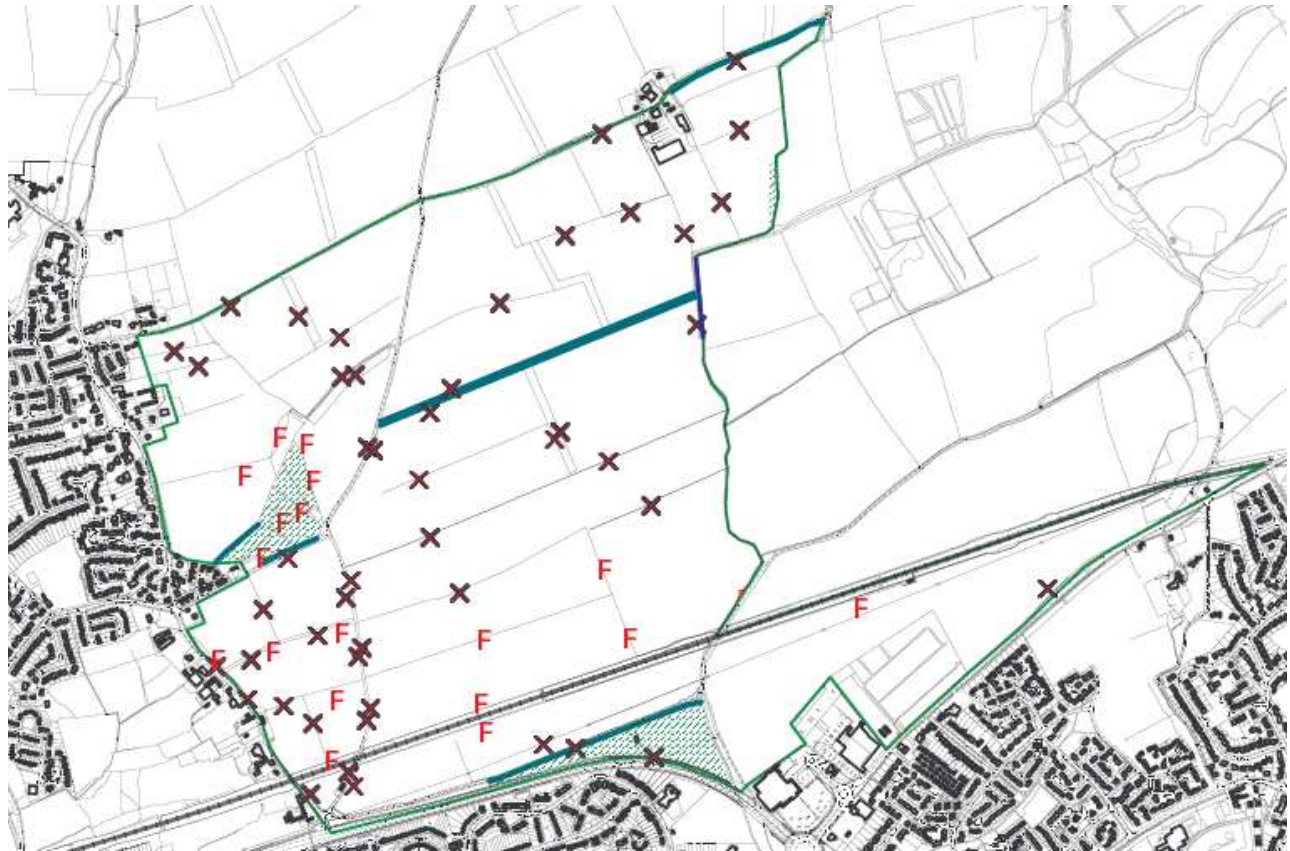
This assessment is complete and a suitable reference for evaluating the ecology of the site. However to identify adequate compensation should development be considered some extra surveying in the future will be required as below:

- a. Survey for bat flight paths and bat use of trees and plantations (summer).
- b. A common bird census of nesting birds to build up biodiversity information (May).
- c. A more detailed floral survey of the semi-improved grassland areas, especially the area at Roeshot, and the eastern woodland. (May/June).
- d. A search for wood cricket in the eastern woodland (summer).

APPENDICES
Plan 1 – Survey area and Protected/Notable sites

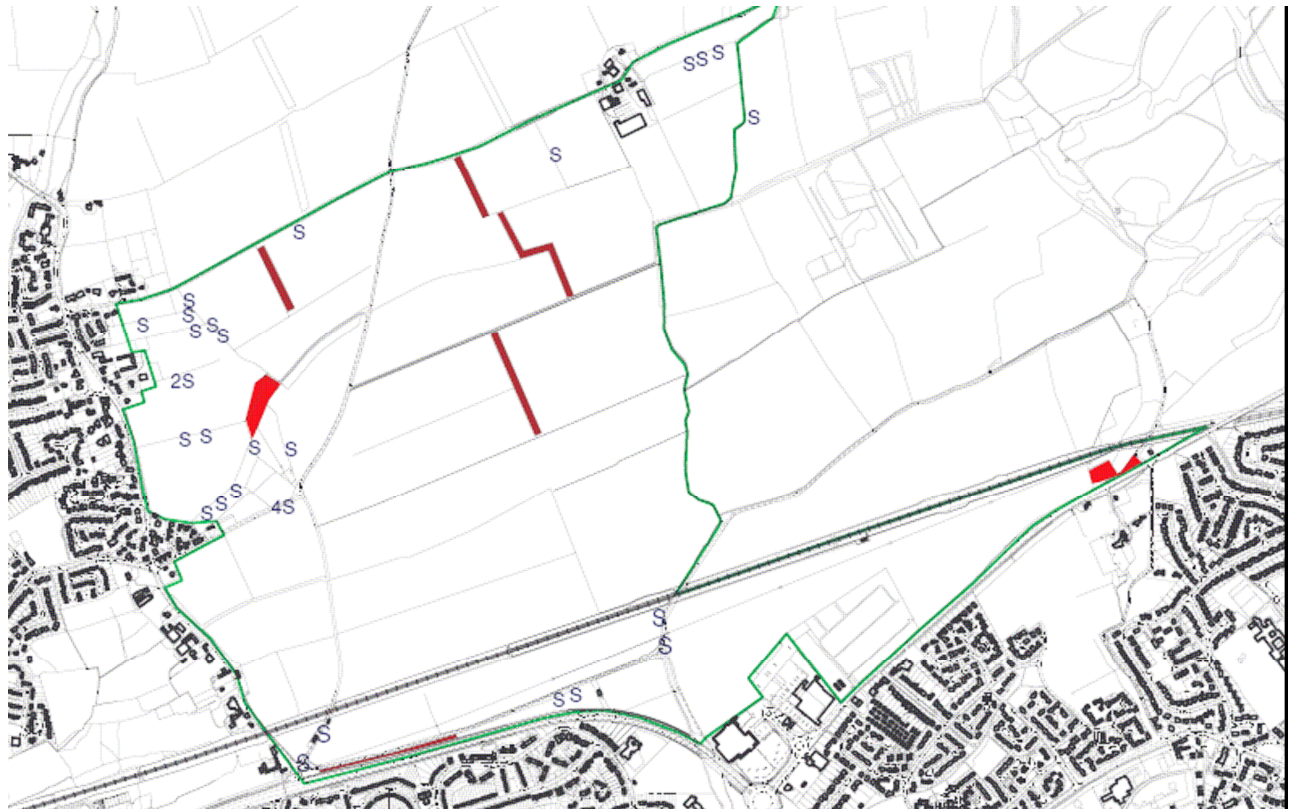


Plan 2 – Fields and boundaries



Green hatch – semi-improved grassland
F - fencelines
X – non Hedgerow Regulation (HR) hedges
Turquoise line – thicker hedges
Blue line- HR hedge

Plan 3 – Trees and woodland



S- standards
Red – deciduous woodland
Brown – conifer plantations