



Ecological Survey Report

Henlle Hall,
Preeshenlle Lane, Gobowen,
Shropshire,
SY10 7AX
SJ 306353

Version 3: March 2018

Prepared by	For
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Executive Summary

A phase 1 type ecological survey and tree inspection of the site and its immediate surroundings, was carried out on 9th October 2017 by Angus Andrew. This assessment of the site was made at the request of Roger Bellamy of CGL Homes Ltd. The proposal is to erect a single storey, wood constructed, demountable, chalet style, reception on this site.

The survey aimed to determine the presence or absence of protected species, or significant biodiversity or geological features to inform an application for planning permission.

Opinion

Flora: There was a limited diversity of flora. Rhododendron dominates at ground level. Two large mature trees are present at the edge of the site as are two large standing dead beech stumps. Some tree felling works are necessary to these dead and dying trees and should be carried out sympathetically without damage to neighbouring trees. The reception centre will be sited away from the demarked root protection areas of surrounding trees and a method statement is available in report "Tree Survey Report for Reception Centre at Henlle Hall" for construction techniques to avoid root damage. These are detailed in the BS5837 report by Treetec dated November 2017.

Bats: The revised development is unlikely to affect foraging sites of bats. The single storey building has wide eaves and will not be occupied or used as accommodation at night. Light emissions will therefore be minimal to zero at night. A lighting plan is necessary. Site enhancements in the form of bat boxes and a lighting plan are necessary to minimize effects on bats.

Birds: There are no significant, foreseeable effects on birds. Twenty bird boxes of various types will be placed around the site, with ten in the vicinity of the building. A feeding station for visitor's interest is planned.

Great Crested Newts: There are 2 ponds within 250m and 200m of the site boundary that scored excellent on an HSI survey. A hand search of the pond in late March 2018 revealed no evidence of GCN breeding activity. The ponds are a significant distance from a small single building development, the impact of which would be negligible on distant newt populations. Good terrestrial habitat surrounds the ponds. A survey was carried out by Gerald Longley in 2012 that concluded GCN were not present in the ponds on site due to fish numbers. A copy of the report is included with this application. The development is of a scale that further survey work is not considered necessary.

Badgers: There was no evidence that badgers cross the site and no setts within 30m were found.

Dormice: There was no evidence that dormice enter the site.

Biodiversity and ecological importance:

The site was considered of moderate ecological interest in a local context with some potential to enhance the biodiversity, and landscape value of the site. The building occupies what is presently hard standing in an area of parkland and woodland. Tree planting will take place around the building in what is presently an open space to enhance the woodland

effect of the surrounds. The design aim is for the building to blend in with the surrounding natural environment.

1 Introduction

Treetec were commissioned by Roger Bellamy of CGL Homes Ltd to undertake an ecological appraisal of a woodland site within the curtilage of Henlle hall.

The aim of the survey was to determine the presence or absence of protected species, or significant biodiversity or geological features to inform a planning application for a development proposal. This report provides a baseline ecological appraisal of the site and suggests the potential for biodiversity improvements to the land and its management.

The proposal is to erect a two storey, wood constructed, demountable, chalet reception on this site.

This report describes the findings of a survey undertaken in October 2016 and reviewed in March 2018. It outlines any ecological constraints and opportunities for biodiversity enhancement associated with the development proposals. The method was based upon an Extended Phase 1 Habitat Survey (JNCC 2010).

2 Site Location & description

The site consists of a glade within a copse to the southwest of the Hall. The area has hard standing and is utilised as a wood store and work yard. The surrounding area consists of parkland, woodland, amenity grassland and a golf course. There is one pond on site, approximately 100m from the site centre. Other ponds within 250m have been considered.

3 Methods

In order to establish the baseline ecological conditions on site and in the adjoining habitats, a survey were undertaken by Angus Andrew in October and November 2017 and revisited in March 2018.

3.1 Desk Study

This element of the work primarily involved consultation with the county records to identify any records of rare, protected or notable flora and fauna within the application boundary and immediate vicinity. A search for relevant information available via the internet, using the National Biodiversity Network (NBN) Gateway (<http://data.nbn.org.uk/>) was undertaken.

In the context of this report, important or notable habitats are considered to be those which are of a sustainable size and which meet any of the following criteria:

- Habitats which have a high intrinsic ecological value i.e. they support a diverse range of vascular plant and/or faunal species;
- Any UK BAP (Biodiversity Action Plan) Priority Habitats;
- Local BAP (LBAP) habitats of significant extent and/or ecological importance.

3.2 Field Survey Methods

The survey incorporated the land within the site boundary and areas immediately adjacent to it since they form a continuous habitat and was based upon the standard Phase 1 Habitat Survey technique. All habitat types within the survey area were characterized and mapped according to the JNCC handbook descriptions (JNCC, 1990) and their potential to support rare, protected or otherwise notable species of flora and fauna assessed.

The extended faunal survey element incorporated a search for any evidence of use by protected or notable animal species. The standard methodology as recommended by Harris, Creswell and Jefferies (1989) was followed to complete a thorough search for evidence which would indicate the presence of badger (*Meles meles*) both on the site and within 30 m of the site boundary. A search was made for evidence of dormouse (*Muscardinus avellanarius*) presence.

Bats - Tree Survey

The trees were surveyed to British Standard 5837 to assess their health and impact that the development may have upon them. These are detailed in BS5837 report by Treetec dated November 2017. These trees were also assessed at this time for their potential to support bat roosts. A week of static bat monitoring around the Hall in August 2016 recorded activity from 5 species particularly around the woodland edge.

For this survey, all trees were studied from the ground with the aid of binoculars looking for features capable of supporting bat roosts, including rot holes, cracks, splits, woodpecker holes, folds, overhangs, wound callus rolls and flaking bark, and identified as one of the following categories:

- **No Potential.** Tree has no features capable of supporting bat roosts.
- **Unknown Potential.** Tree cannot be fully assessed from ground due to size or view obscured by leaves or ivy but is of a size, age and form to warrant further inspection.
- **High potential.** Tree has features thought to be capable of supporting bat roosts.

Birds

Incidental observations of birds on the site or flying over were also recorded.

Newts

A survey was undertaken to identify ponds that lie on site or within 250 m of the site boundary and within connective habitat (i.e. with no significant barriers to dispersal). Each pond was assessed for its ability to support great crested newts (*Triturus cristatus*).

Where possible, habitats were cross-referenced to any relevant important UK priority habitats or local habitats adopted by the local Biodiversity Action Plan.

The habitats have been mapped in Appendix 1 with additional habitat descriptions provided in the target notes section.

3.3 Constraints

There were no constraints that would have affected significantly the overall classification in respect of Phase 1 habitat types.

5 Results

5.1 Data search

The records indicate that the site is within 1 km of the Shropshire Union Canal and Fernhill Pastures, a designated SSSI.

The data search shows records of protected / priority species within a 500m search area. *Myotis* bats and long eared *Plecotus auritus* bats, badger *Meles meles* and great crested newt (GCN) *Triturus cristatus* have been recorded.. The last known record for GCN at ponds within 250m to the site was in 2007 on the adjacent golf course. There are records of GCN in two other ponds that lie within the 500m search area but greater than 250m away from the site. These protected species are included in the UK and local Biodiversity Action Plans.

Table 1 GCN records. Source: SEDN

Species	Grid Ref	Location	Date	Recorder
<i>Triturus cristatus</i> (Laurenti, 1768)	SJ319361	St Martins	02/07/02	Helen Roberts
<i>Triturus cristatus</i> (Laurenti, 1768)	SJ319361	OTH:SA:32:2002	12/06/02	Helen Roberts
<i>Triturus cristatus</i> (Laurenti, 1768)	SJ319361	OTH:SA:32:2002	12/06/02	Helen Roberts
<i>Triturus cristatus</i> (Laurenti, 1768)	SJ319361	OTH:SA:32:2002	28/06/02	Helen Roberts
<i>Triturus cristatus</i> (Laurenti, 1768)	SJ319361	OTH:SA:32:2002	21/06/02	Helen Roberts
<i>Triturus cristatus</i> (Laurenti, 1768)	SJ319361	OTH:SA:32:2002	08/05/02	Helen Roberts
<i>Triturus cristatus</i> (Laurenti, 1768)	SJ319361	OTH:SA:32:2002	28/01/03	Helen Roberts
<i>Triturus cristatus</i> (Laurenti, 1768)	SJ319361	OTH:SA:32:2002	06/07/02	Helen Roberts
<i>Triturus cristatus</i> (Laurenti, 1768)	SJ305349	Henlle Hall	01/04/07	Hazelhurst, A.
<i>Plecotus auritus</i> (Linnaeus, 1758)	SJ306354	Henlle Park	20/09/11	Pearce, Mr T.
<i>Plecotus auritus</i> (Linnaeus, 1758)	SJ23	Chirk Castle	10/08/87	Arnold, H.R.
<i>Myotis daubentonii</i> (Kuhl, 1817)	SJ304347	Henlle Park	10/05/13	Macken, Mr W.J.

A week of static bat monitoring in August 2016 recorded activity from 5 species. The most active were soprano pipistrelle and long eared bats with common pipistrelle the third most recorded with noctule and Natterers recorded. The distribution of records is shown in appendix 3.

There are records of plants listed as locally important species. At the time of survey none of these species were seen to be present on this site.

Although this is the most complete set of species data available for the county, any absence of records should not be taken as an indication of absence of species. Likewise presence of species from historic records does not imply current presence. Presence of low numbers of newts does not necessarily indicate that it is a breeding pond.

Field Surveys

The field surveys were undertaken on the 9th October and 17th November 2017. The weather was clear on both visits with no restrictions on access. The site is presently used for wood storage and the ground is mostly hard standing, surrounded by rhododendron, scrub, trees and tall ruderal vegetation.

5.2 Flora

The field survey revealed a limited range of habitats, consisting mostly of amenity grassland with parkland trees both on the neighbouring golf course and in the Hall grounds. The perimeter boundary was lined with trees and intact hedgerows. Specific habitat descriptions are listed in Appendix 1. The target notes and the habitats have been mapped in Appendix 2.

Boundaries

The site boundaries have good quality post and rail fencing with electric fencing incorporated around areas of horse grazing. The hedges are mostly hawthorn *Crataegus monogyna* and naturally regenerated ash *Fraxinus excelsior* and birch *Betula pendula*.

Hedgerows

None of these hedges meet the criteria to classify as an important hedge under the Hedgerow Regulations 1997.

Grassland

The site comprises of improved grassland and amenity grassland. The improved areas present with yorkshire fog *Holcus lanatus*, Cocksfoot *Dactylis glomerata*, plus Ribwort Plantain *Plantago lanceolata*, Broad leaved plantain, *Plantago major*, dandelion *Taraxacum sp.*, tufted vetch *Vicia cracca*, buttercup *Ranunculus sp.* red fescue *Festuca rubra*, chickweed *Stellaria media* and occasionally creeping thistle *Cirsium arvense*, dock *Rumex acetosa agg.* and nettle *Urtica Dioica* at the margins and under the trees. The amenity grassland is a short mown sward.

Trees

The proposed development site is within copse that is dominated by mature beech *Fagus sylvaticus* with some oak *Quercus robur* and ash *Fraxinus excelsior*. Stood around the site are mature beech trees and one mature yew *Taxus baccata*. The trees were surveyed to assess their health and potential to support protected species. Only one tree (T16) a beech had good potential for a bat roost but upon close inspection, no evidence of bats was found. This tree is in a dangerous condition and will be felled after first checking the rot hole at 3m with a ladder and torch.

The canopy spread and rooting area of these trees may be an influencing factor in the development proposals and is dealt with in a separate report.



Figure 1 Centre trees looking SW. The arrow to T16 points at a cavity



Figure 2 Beech tree cavity

5.3 Fauna

In the course of the survey, a search of field signs for protected or notable species was undertaken and the potential of the habitats to support these species considered. In the context of this report, these species could meet any of the following criteria:

- Species protected by British or international law;
- UK BAP Priority Species or local BAP species;
- Nationally rare or nationally scarce species;
- Species of Conservation Concern (e.g. JNCC Red List, RSPB/BTO Red or Amber Lists);

Bats

The surrounding area, particularly its woodland edges, provide suitable foraging and commuting habitat for bats. A week of static bat monitoring in front of the Hall in August 2016 recorded activity from 5 species. The most active were soprano pipistrelle and long eared bats with common pipistrelle the third most recorded. Table 2 shows the number of bat calls per species. Note that calls can represent repetitive passes from an individual.

Table 2 Static monitoring results.

Date	Mn	My.sp	Paur	Ppip	Ppyg	Noctule	Social	Grand Total
20160822	2		2	8	11		1	24
20160823	2	2	9	29	29			71
20160824	1	2	64	9	52	2		130
20160825		1	43	1	56			101
20160826			1	16	17			34
20160828				1				1
Species Total	5	5	119	64	165	2	1	361

Crested Newts (GCN)

There are 5 ponds within a 250m radius of the site and a canal 300m distant. Each was assessed for newt potential using the Habitat suitability Index (HSI) method. At this time of year there would be no direct evidence of GCN presence. The locations of ponds is shown in appendix 4.

A previous assessment of ponds within 100m had been carried out by Gerald Longley in 2013. His pond numbered 3 in the report has since been filled in. Pond three in this survey refers to a different pond located north east of the Hall. No newts of any species were recorded by Mr Longley using netting, torching or egg searching at any of the three ponds. A copy of the report is included with this application

Pond 1

The pond is about 1m deep, unlined, approximately 20m x 20m. It was recently extended and stocked with fish. The water is turbid with few submerged plants other than *Typha latifolia* dominating the northern bank along with *Juncus effusus*. The potential of the nearest pond to support great crested newts (*Triturus cristatus*) was assessed by Gerald Longley in 2013 as average. Current HSI was deemed poor. Mr Longley did not record any GCN in this pond.

Pond 2

An ornamental brick walled pond about 25m x 5m located in the neighbours garden. Fish and ducks present. It was assessed by Gerald Longley in 2013 as poor. Current HSI was also deemed poor.

Pond 3

A field pond about 8m x 8m. Surrounded by norway spruce, ash and elm trees. Margins with *iris pseudocorus*, water mint *Mentha aquatica*, bulrush *Typha latifolia* and *crassula helmsii*. The HSI was 0.8, excellent. Further survey work in the spring breeding season would be required to ascertain if GCN are present in the pond.

Pond 4

A manmade, lined pond about 60m x 30m. Dominant plants included, water milfoil *Myriophyllum sp.*, water mint *Mentha aquatica*, bulrush *Typha latifolia*, frogbit *Hydrocharis morsus-ranae*, soft rush *Juncus effusus*, hard rush *Juncus inflexus*, lilies, floating sweetgrass, *Glyceria flutans*, reed sweet grass *Glyceria maxima*, curly waterweed *Lagarosiphon major*. The HSI was 0.94, excellent. However, this pond is only six years old and has two fountains with floodlights. The fountains were not active at the time of survey. It is likely to have had fish introduced but no evidence could be found. The water was very clear but submerged macrophytes could easily obscure fish. Curly Waterweed (*Lagarosiphon major*) is a submerged plant species which spreads quickly to out compete native pond plants. Further survey work in the spring breeding season would be required to ascertain if GCN are present in the pond.

Pond 5

The muddy margins and vegetation would suggest periodic drying. Eutrophic and silted from golf course runoff. Rosebay willowherb and nettle dominating shoreline in unshaded side with dogs mercury and soft rush *Juncus effusus* the other. Surrounded by mature alder, sycamore and oak.

Canal

Few macrophytes, steep sided banks and no local records of newts within it. The canal has a slow flow and experiences regular boat traffic.

Note: The Habitat Suitability Index (HSI) (Oldham *et al*, 2000) is a numerical index between 0 and 1, wherein a score of 1 represents optimal habitat for great crested newts. The HSI score is used to define the suitability of the pond on a categorical scale. The HSI is indicative but is not accurate enough to allow predictions to be made about the numbers of newts in any particular pond. Where the scores are average or above it is recommended that further surveys are carried out to ascertain presence or absence of GCN.



Figure 3 Pond 1



Figure 4 Pond 3



Figure 5 Pond 4



Figure 6 Canal



Figure 7 Pond 5

Table 3 HSI results

Ponds within 250m of Henlle Hall site						
Habitat Suitability Index	Pond reference					
	1	2	3	4	5	6
1 - Location	1.00	1.00	1.00	1.00	1.00	1.00
2 - Pond area	0.20	0.10	0.30	0.90	0.10	0.80
3 - Pond drying	0.90	0.90	0.90	0.90	0.50	0.90
4 - Water quality	0.33	0.33	1.00	1.00	0.01	0.33
4 - Shade	1.00	1.00	1.00	1.00	0.50	1.00
6 - Fowl	0.01	0.67	0.67	1.00	1.00	0.67
7 - Fish	0.33	0.33	0.67	0.67	1.00	0.01
8 - No. of Ponds	1.00	1.00	1.00	1.00	1.00	1.00
9 - Terrestrial habitat	0.67	0.67	1.00	1.00	1.00	1.00
10 - Macrophytes	0.50	0.40	1.00	1.00	0.30	0.40
HSI score	0.38	0.53	0.81	0.94	0.39	0.48
Prediction	Poor	< Average	Excellent	Excellent	Poor	Poor
SI 8 - Score calculator		Score	Pond Location			
Number of local ponds	14	0.75	1. Fishing pond by chalets			
SI 8 score for graph	4.46		2. Ornamental fish pond in neighbours garden			
< 0.5	Poor		3. In field adjacent to public footpath			
0.5 - 0.59	< Average		4. Lion Quays			
0.6 - 0.69	Average		5. Edge of golf course			
0.7 - 0.79	Good		6. Canal			
> 0.8	Excellent					

Badgers

There was no evidence of badger (a Local Biodiversity Action Plan species) in the vicinity of the site. There are however records of Eurasian badger 1.1km southwards and just west of the A5.

Dormice

No evidence of dormouse presence was found and there are no records of dormouse in the area.

Birds

During the surveys, four different species of bird were noted at the site and within the vicinity including wood pigeon (*Columba palumbus*), blue tit (*Cyanistes caeruleus*), wren (*Troglodytes troglodytes*), black bird (*Turdus merula*) crow (*Corvus corone*). The adjacent tree cover provides good nesting habitat for these species. A tawny owl (*Strix aluco*) was seen in a hole in T3. It was not present during the second visit but a fresh pellet was left in the hole.

Reptiles

The site it is considered of limited suitability to support common reptiles and the likelihood of this species (or other common reptiles) being present is low.

6 Discussion

In terms of biodiversity, Henlle Hall and its surrounds are considered of good ecological interest in a local context. With respect to the development site, the picture is more limited. The building occupies what is presently hard standing surrounded by tall ruderal and rhododendron vegetation. Tree planting will take place around the building in what is presently an open space, to enhance the woodland effect of the surrounds. The design aim is for the building to blend in with the natural environment.

The surrounding grassland is of little ecological interest having been mowed regularly it has a limited species range. The hedgerows are also of limited value and would not be considered important under the Hedgerow Regulations Act.

Bats occasionally use the site area for foraging and commuting. Recent surveys recorded the presence of five species using the woodland fringes. Considerations of light pollution need to be addressed via a lighting plan. Excessive lighting could constitute disturbance of bat foraging and connecting areas. Bats are a protected species both under UK and European law. The lighting plan shall demonstrate that bats will not be adversely affected by the building. For this reason, the roof will have a large eaves which will deflect light downwards, away from bats. Similarly, the building will not be occupied or used as accommodation at night. Ten Schwegler bat boxes of various types will be placed around the Henlle Hall site to provide additional roosting possibilities.

One of the trees, T16, was deemed to be in a dangerous condition and would need to be felled for the safety of the development. The cavity at 3m should be checked for bats before felling. Tree planting will take place around the building in what is presently an open space to replace removed trees and enhance the woodland by creating a more mixed age stand.

There is a potential newt presence within 250m of this site. Ponds 3 and 4 in the HSI survey may be breeding ponds. A visit in March revealed no GCN breeding signs. This could only be truly ascertained by further surveys. However, their distant location reduces the influence that a single structure would have upon a breeding population. Such low importance in relation to the size of development makes specific survey work unnecessary. Good terrestrial habitat surrounds the ponds.

Removal of vegetation should be carried out with care. Under the Wildlife and Countryside Act, all birds, and their nests and eggs are protected by law and it is an offence (with certain exceptions) to intentionally kill, injure or take any wild bird or to intentionally take, damage or destroy the nest of any wild bird while it is in use or being built. Twenty bird boxes of various types will be placed around the Henlle Hall site, with ten in the vicinity of the building. A feeding station for visitor's interest is planned.

There are no badger setts on site or within 30m. Any live setts are too distant to be of concern.

Bibliography

Rose, F., O'Reilly, C., Smith, D., & Collings, M. (2006) *The wild flower key: how to identify wild flowers, trees and shrubs in Britain and Ireland*, Frederick Warne.

JNCC (2010). *Handbook for Phase 1 habitat survey*. Joint Nature Conservation Committee

Bat Conservation Trust (2016) *Bat Surveys – Good Practice Guidelines*. Bat Conservation Trust, London.

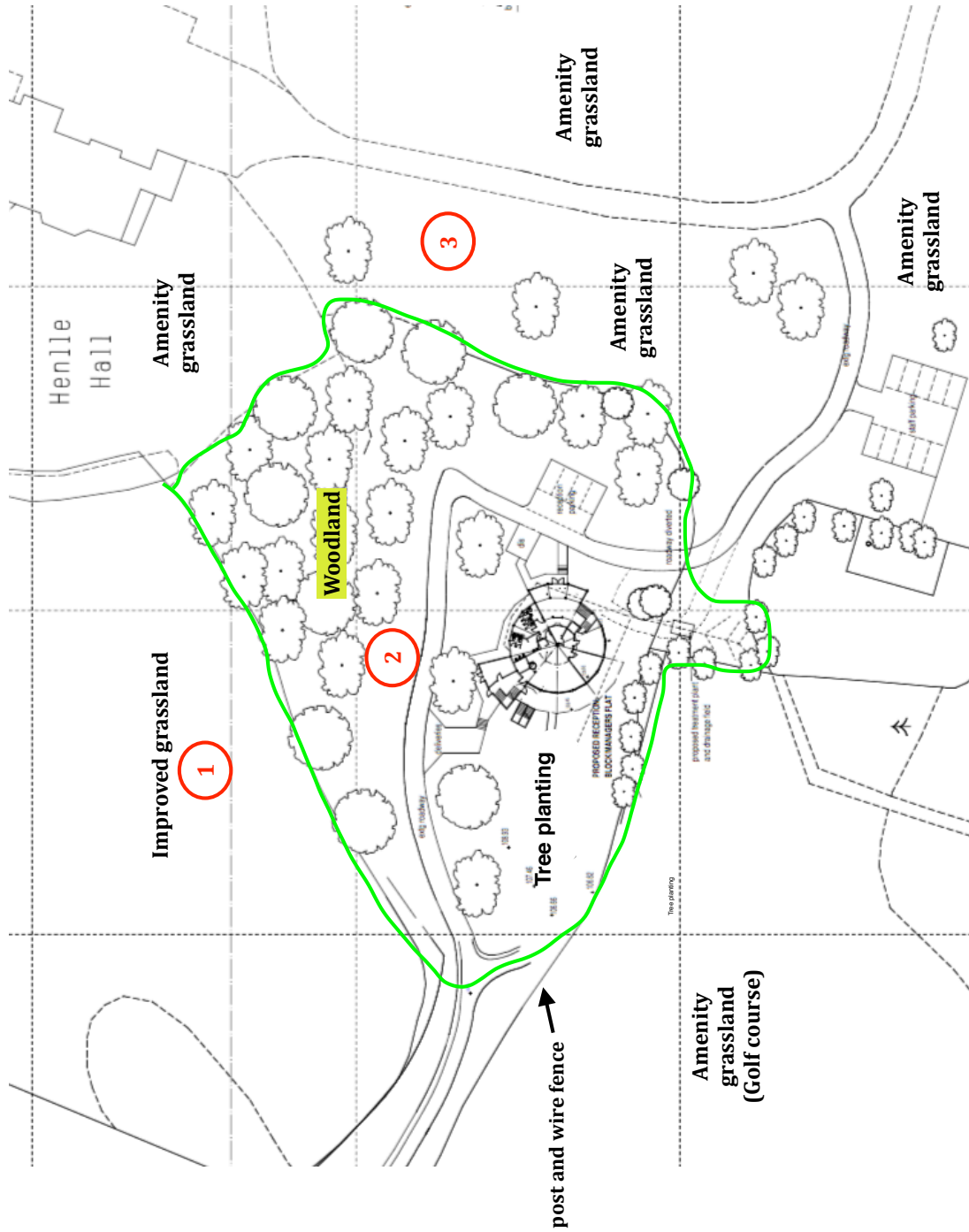
Harris, Creswell and Jefferies (1989), *Surveying Badger*, Mammal Society

Appendix 1

Target Note	Description / Comment
1	Improved grassland: Yorkshire fog <i>Holcus lanatus</i> , Cocksfoot <i>Dactylis glomerata</i> , plus Ribwort Plantain <i>Plantago lanceolata</i> , Broad leaved plantain, <i>Plantago major</i> , dandelion <i>Taraxacum sp.</i> , tufted vetch <i>Vicia cracca</i> , buttercup <i>Ranunculus sp.</i> red fescue <i>Festuca rubra</i> , chickweed <i>Stellaria media</i> and occasionally creeping thistle <i>Cirsium arvense</i> , dock <i>Rumex acetosa agg.</i> and nettle <i>Urtica Dioica</i>
2	Mature beech <i>Fagus sylvaticus</i> , sycamore <i>Acer pseudoplatanus</i> , oak <i>Quercus robur</i> and yew <i>Taxus baccata</i> .
3	Amenity lawns with non native tree species

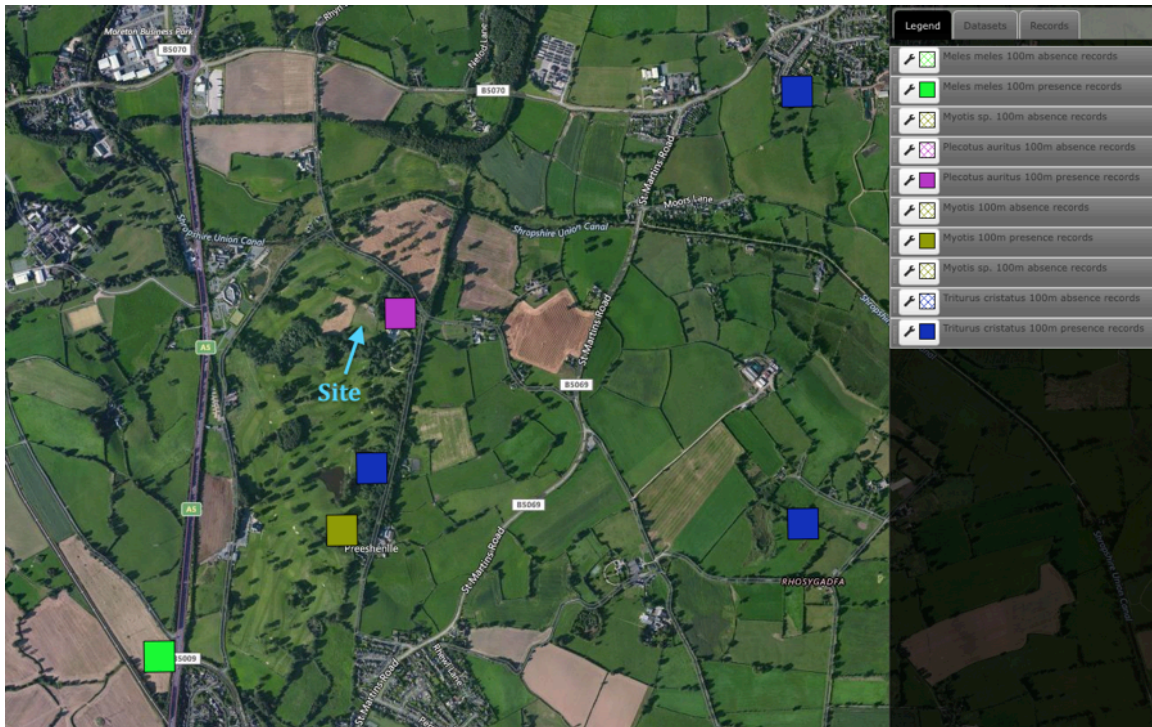
Appendix 2

Figure 8 Site plan



Appendix 3

Distribution of biological records



Appendix 4

Locations of ponds

