

PRELIMINARY ECOLOGICAL APPRAISAL

GROVES FARM, MARCHWIEL, WREXHAM, LL13 0YB

GRID REF: SJ33764566



14/06/2019

Arbor Vitae Environment Ltd
Lower Betton Farm
Cross Houses
Shrewsbury
Shropshire
SY56JD



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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Temporary accommodation has been positioned within an agricultural field at Groves Farm, Wrexham. Arbor Vitae have been asked by Roger Parry and Partners to assess its likely impact, if any, on the surrounding environment and any protected species if present.

1.2 SCOPE OF SURVEY

The survey is primarily designed to:

- Identify and record habitats and important ecological features on site;
- Evaluate the potential of the development site to provide opportunities for protected species;
- Determine any likely impact which the development and landscape proposals may have on these.

1.3 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):

Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

Mitigation - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.



2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE, AND BACKGROUND

Groves Farm is located just south of Wrexham, off the A483 (Figure 1). The majority of the surrounding land is made up of arable and pasture fields with parcels of broadleaved woodland throughout (Figure 2). The structure on site sits in the north west corner and occupies a marginal proportion of the field (Figure 3).

3 SURVEY METHODOLOGY

3.1 DESK STUDY

An initial desk study was composed to gain background information regarding any protected species or designations within the area. The main sources of information were MagicMap and NBN Atlas.

3.2 SITE SURVEY

A visit was made to survey the proposed development site on 06/06/2019. The survey was carried out in accordance with CIEEM (2017) good practice guidelines. The objective of the survey was to find and record any signs of use by protected species and to note the habitat features present.

An assessment of the available habitats both on and adjacent to the site led to consideration of the potential of the site for the following protected species:

- Badgers
- Bats
- Breeding birds
- Great Crested Newts

The survey methodology was tailored to evaluate the area for these species in the following ways:

Badger

An area within 50 meters of the site was closely searched for the following signs of badger activity:

- Setts



- tracks and footprints
- latrines
- snuffle holes

Bats

Potential roosting features on site were noted and the site was assessed in terms of nearby connecting habitat and other features which could be of value to bats.

Breeding birds

The site was assessed in terms of its suitability to support breeding bird populations. Hedgerow habitat and nearby potential habitat were assessed and recorded.

Great crested newts

A desk study and a ground search were conducted to search for any areas of open water within 250 meters. Waterbodies were then assessed based on the Habitat Suitability Index for great crested newts (Oldham et al., 2000 and ARG UK, 2010).

3.2 PERSONNEL

The survey was carried out by Phillipa Stirling MSc: assistant ecologist.

3.3 CONSTRAINTS

There were no constraints on the survey being carried out according to accepted guidelines and standards.



4 SURVEY RESULTS

4.1 DESK STUDY

By using MagicMap, the desk study found that within 5km of the site there were the following designations:

- Sontley Marsh (SSSI) 1.7km
- Stryt las a'r hafod (SSSI) 2.6km
- Johnstown Newt Sites (SAC) 2.6km
- River Dee (SSSI) 2.7km

The search included Ramsar, SSSI, SAC, SPA, and LNR.¹

Results from the desk study revealed that within a 1km radius of the proposed development site the following protected species have been recorded:

- Natterer's, Whiskered (2005), Noctule (2016), Brown-long eared (2010), common and soprano pipistrelle bat (2017) (EPS, WCA5)²
- Goshawk (2014), Hen Harrier (2005), Hobby (2017), Red Kite (2015), Redwing (2013), Field Fare (2013), and Barn Owl (2016) (WCA1)
- Great Crested Newt (1993) (EPS, WCA5)

Hedgehog were also recorded within 1km which are a priority species in the UK.

4.2 HABITATS ON SITE

All habitats are classified using JNCC's Phase 1 Habitat Survey Handbook (JNCC, 2010).

Improved grassland

The field which was subject to survey was dominated by perennial ryegrass, annual meadow grass, and white clover. Other grass species found in low concentrations were meadow foxtail, Yorkshire fog, and reed canary grass.

The edges of the field had other species including: dock, common nettle, bull thistle, creeping buttercup, cut-leaved cranesbill, hedge mustard, cow parsley, hogweed, and great horsetail at the southern edge.

¹ SSSI: Site of Special Scientific Interest, SAC: Special Area of Conservation, SPA: Special Protection Area, LNR: Local Nature Reserve.

² EPS: European Protected Species, WCA1: Wildlife and Countryside Act 1981 schedule 5, WCA1: Wildlife and Countryside Act 1981 schedule 1.



Hedgerow

The north, east, and west boundary of the field is made up of native species hedgerow including hawthorn, hazel, field maple, dog rose, and elder. There are several mature oak trees in the north east corner of the field around the edge of a pond which have been part of the hedgerow.

Wall

The north boundary of the site is a brick wall which is failing in places and becoming overgrown with the species described above.

Standing water

There is a small pond system in the north east corner of the site which is interconnected. The pond is surrounded by dense vegetation as described in 'hedgerow', up to 2 meters over the water. The surface layer is inundated with common duck weed and the banks of the pond are steep with a thick layer of brambles.

Broadleaved woodland

An area of woodland exists at the southern boundary of the field site. Species include ash, oak, sycamore, holly, field maple, hawthorn, elder, Wych elm, and hazel. The woodland appears unmanaged, with understorey regeneration taking place. The ground flora is limited and the canopy approximately 80% closed.

There are fallen trees within the woodland and a small stream at the bottom of a steep sided gully. There was no pond present in the woodland at the time of survey, as suggested on mapping resources.

4.3 ADJACENT HABITATS

Improved grassland

The field site is surrounded by agricultural fields, both arable and pasture.

Woodland

A strip of broadleaved woodland extends to the east and north of the site with species as described above.

4.4 PROTECTED SPECIES

Badger

There was no evidence of badgers on site during the survey and no field signs.

Bats

The woodland and mature hedgerows offer good commuting and foraging opportunities for bat species. Several species have been recorded within a 1km radius of the site.

Breeding birds

The mature hedgerow on site offers plenty of opportunities for breeding birds, as does the woodland and dense vegetation surrounding the pond on site.

Great Crested Newt

There is one pond on site which is approximately 180m from the temporary structure. GCN have been recorded within 1km of the site, the most recent record being 1992. The pond was assessed using the Habitat Suitability Index (Oldham *et al.*, 2000, ARGUK, 2010) and demonstrated 'average' habitat suitability for GCN at the time of survey. The density of ponds within 1km of the site is high but the agricultural grassland either side of the pond is sub-optimal habitat for GCN. Both corridors of woodland to the north and south of the pond have streams flowing

through them at the bottom of a steep gully which may inhibit terrestrial movement to and from the pond on site.

	Pond Name	Pond 1
	Grid Ref	SJ33874568
SI No	SI Description	
1	Geographic location	1
2	Pond area	0.9
3	Pond permanence	1
4	Water quality	0.67
5	Shade	0.2
6	Water fowl effect	0.67
7	Fish presence	0.67
8	Pond Density	1
9	Terrestrial habitat	0.67
10	Macrophyte cover	0.3
HSI Score		0.64
Pond suitability (see below)		<i>Average</i>



5 EVALUATION OF RESULTS AND POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

The positioning of a temporary dwelling in the corner of an improved grassland field is not thought to have any negative ecological impacts on the immediate surroundings. The structure is raised off the ground by stilts of at least 50cm and did not require associated groundworks.

5.2 PROTECTED SPECIES ASSESSMENT

Badger

The survey revealed no signs of use by badger and the desk study found no recordings of badger within 1km of the site. The inclusion of the temporary accommodation within the field is not thought to have any impact on badgers, if present.

Bats

The temporary structure on site does not appear to have any external security lighting which could disturb bats and has not infringed on the hedgerow's linear function. It is thought that the structure will not negatively impact any bat populations in the area.

Breeding birds

No evidence of breeding birds was found during the survey and the temporary structure is not thought to be creating any problems for nesting birds. There is a sufficient space between the hedgerow and the structure so as to not disturb any birds using the hedge.

Great crested newt

The placement of temporary accommodation which is raised off the floor and hasn't had any groundworks is not thought to injure/harm/kill any GCN which may be present. Therefore, it is highly unlikely that an offence would be committed as a result of the installation of accommodation. Natural England's rapid risk assessment tool can be seen below which indicates that the project is highly unlikely to cause an offence under relevant legislation.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0.005
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.005
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

6 MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

Habitat mitigation will not be required as the development has resulted in the loss of a marginal area of improved grassland which is of low ecological importance.

6.2 PROTECTED SPECIES MITIGATION

Bats

The structure does not pose any negative impacts within the landscape as it is. If additional external lighting is added, the following specifications should be adopted:

- All lighting hooded and directed toward the ground. No upward light spill.
- Lighting on a short timer of less than 1 minute to minimise disruption.

The hedgerow should remain intact and unobstructed in order to remain as a linear landscape feature which may be used by bat species moving through the landscape.

Breeding birds

The structure on site does not infringe upon the hedgerow adjacent and is not thought to restrict opportunities for nesting birds, therefore no mitigation is required.

Great Crested Newt

The structure on site is highly unlikely to cause an offence where GCN are concerned as the excavations/groundworks have not resulted in ground disturbance. The structure remains raised from the ground and therefore is not creating any terrestrial barriers for movement. Mitigation is not necessary in this instance.



7 SUMMARY AND CONCLUSION

Temporary accommodation has been positioned within an agricultural field at Groves Farm, Marchwiel near Wrexham. Arbor Vitae have been asked to assess the potential ecological impact of the structure on the surrounding landscape and any protected species, if present.

A site visit was carried out on 06/06/2019 to document the habitats on site and assess their potential value to protected species. The site was made up of improved grassland with some ruderal plant species throughout the margins on the land. An area of broadleaved woodland is present to the south of the site and the surrounding habitat is mostly agricultural fields with some corridors of broadleaved woodland.

A desk study revealed that within 1km there were several bat species including Natterer's and Whiskered, and several bird species listed on schedule 1 of the Wildlife and Countryside Act 1981 such as Goshawk, Hobby, and Barn Owl. Great Crested Newt was also recorded within 1km of the site, the most recent record in 1993.

There was no evidence of badger using the site at the time of the survey and it is unlikely that the structure on site would have any impact on this species. Similarly, the project is not thought to impact bats or breeding birds as there has been no additional external lighting or interference with the hedgerows on site.

It is thought that the structure on site is 'highly unlikely' to cause an offence to GCN under relevant legislation as there has been no groundworks/excavations and the raised nature of the structure does not impact terrestrial movement, if GCN are present. Mitigation will not be required for this temporary accommodation as the ecological impact is thought to be very low.



REFERENCES

ARG UK (2010). ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom.

CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust.

JNCC (2010) Handbook for Phase 1 habitat survey - a technique for environmental audit, ISBN 0 86139 636 7.

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10(4), 143-155.



FIGURE 1 LOCATION. 1:50,000



ARBOR VITAE

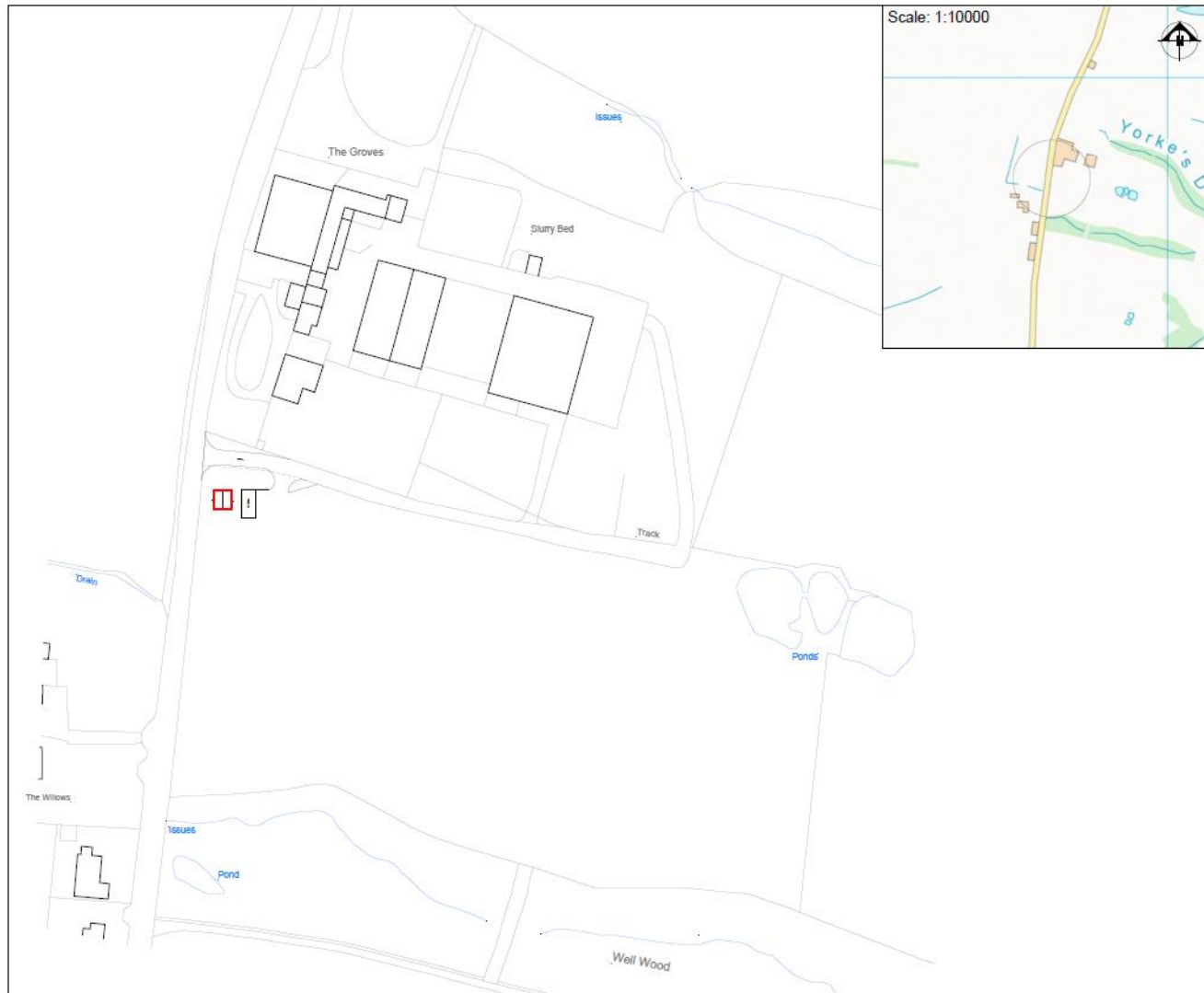
ECOLOGY • FORESTRY • LAND USE

FIGURE 2 AERIAL PHOTOGRAPH



ARBOR VITAE
ECOLOGY • FORESTRY • LAND USE

FIGURE 3 LOCATION PLAN



ARBOR VITAE
ECOLOGY • FORESTRY • LAND USE

APPENDIX 1 PHOTOGRAPHS

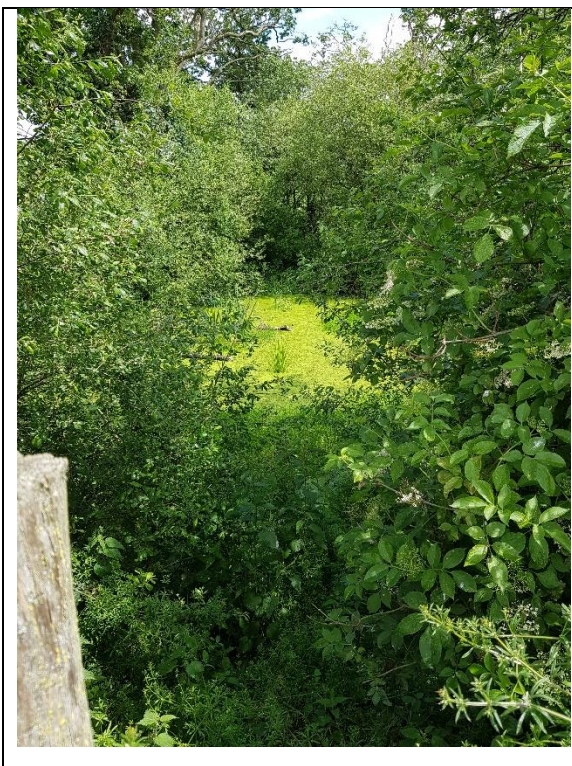


Temporary accommodation is positioned in the north west corner of a semi-improved grassland field.

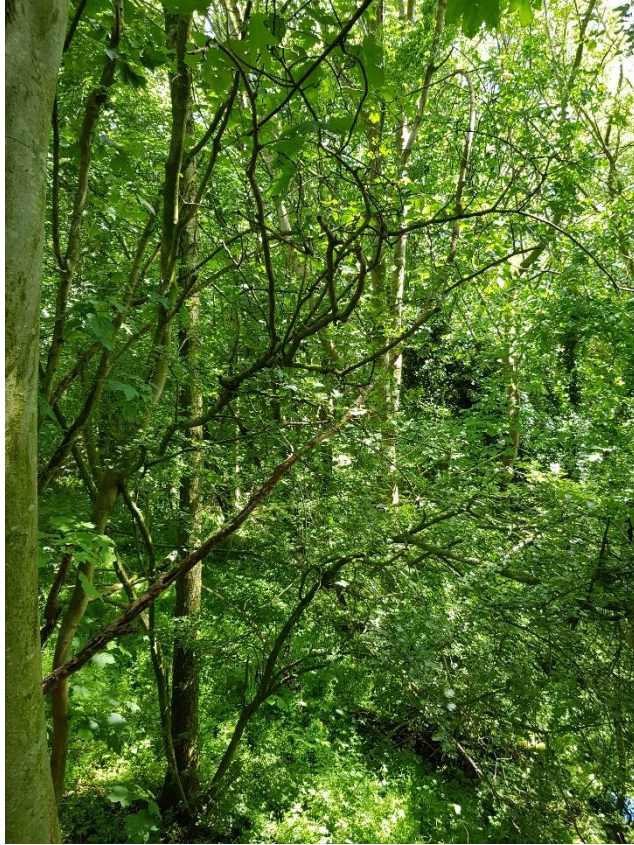


Track runs the length of the northern boundary.



	Pond in the north east corner of the field is overgrown with vegetation, trees, and duckweed.
	West hedgerow with temporary accommodation pictured.





Woodland to the south of the field.

