ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



PRELIMINARY ECOLOGICAL APPRAISAL

GARREG LWYD

Arbor Vitae Environment Ltd, Lower Betton Farm, Cross Houses, Shrewsbury, Shropshire, SY5 6JD

Project name: **Garreg Lwyd, Llangollen, Wrexham, LL20 7RY.**

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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the construction of an agricultural dwelling at Garreg Lwyd Farm.

Arbor Vitae were commissioned by Roger Parry and Partners to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

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 proposed development site to provide opportunities for protected species;
- Determine any likely impact which the development and landscape proposals may have on these.
- Identify opportunities for the enhancement of habitats and biodiversity features on site.

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

Garreg Lwyd farm is located 1.4km south west of Froncysyllte, Llangollen (Figure 1). The land surrounding the farm is predominantly agricultural grassland with some areas of mixed woodland to the north and south (Figure 2).

The proposal will include the construction of a detached dwelling on an agricultural field adjacent to the farm yard. Access into the field is through an existing field gate at the south boundary. All services will be provided from the existing residential property on site.

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 site visit was made on 17/06/2021. The survey was carried out in accordance with CIEEM (2017) best 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:

- Badger
- Bats
- Breeding birds
- Great crested newt
- Reptiles

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

[redacted]



Bats

The site was assessed in terms of its suitability to support bat species. Hedgerow habitat and nearby potential habitat were assessed and recorded and potential impacts from the proposals considered.

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 newt

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

Reptiles

The site was assessed based on its suitability to support reptile species. Vegetation on site, proximity to fresh water and connectivity to nearby habitats were primarily used as assessment criteria.

3.3 PERSONNEL

The survey was carried out by Phillipa Stirling MSc ACIEEM: Ecologist.

3.4 CONSTRAINTS

One pond lies 185m from the site on neighbouring land and could not be accessed at the time of the survey.

4 SURVEY RESULTS

4.1 DESK STUDY

The desk study found that within 1km of the site there were the following designations:

Name	Designation	Distance from site
Clwydian Range and Dee Valley	AONB	The site sits within this designation.
Wood at Pen-y-graig	Ancient Semi Natural Woodland	0.4km
Top Plantation	Plantation on Ancient Woodland Site	0.4km
Woodland to the north	Restored Ancient Woodland Site	0.7km
Woodland to north west	Ancient Semi Natural Woodland	0.8km
Fron Wood	Restored Ancient Woodland Site	0.9km
The search included Ramsar, SSSI, SAC, SPA, NNR 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:

Species	Distance	Protection
[redacted]	[redacted]	[redacted]
Slow worm	0.3km	Wildlife and Countryside Act 1981.
Brambling	0.8km	Wildlife and Countryside Act 1981.
Redwing	0.8km	Wildlife and Countryside Act 1981.
Fieldfare	0.8km	Wildlife and Countryside Act 1981.

[1] **SSSI**: Site of Special Scientific Interest, **SAC**: Special Area of Conservation, **SPA**: Special Protection Area, **LWS:** Local Wildlife Site **NNR:** National Nature Reserve, **LNR**: Local Nature Reserve.

4.2 HABITATS ON SITE

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

Improved grassland

The field site is a grazed agricultural field. Species recorded include: perennial ryegrass, annual meadow grass, curled dock, creeping buttercup and dandelion.

4.3 ADJACENT HABITATS

Hedgerow

The east, north and west boundary of the field site is a native species hedgerow made up of hawthorn. The hedgerow has been grazed and the base is now mostly missing.

The south boundary of the site is made up partially of *Leylandii* hedgerow. There are two mature sycamore trees at either end of the south hedgerow.

4.4 PROTECTED SPECIES

Badgers

There are no historical records of badger at the site and no field signs were found within the search area.

Bats

The habitats on site do not provide any potential roosting sites for bat species. The adjacent hedgerows provide limited opportunities and there are no records of bats within 1km of the site.

Breeding birds

The site does not provide suitable nesting sites for breeding birds. The grassland sward is short and uniform and there was no evidence of breeding birds found on site during the survey.

Great crested newt

There are no records of GCN within 1km of the site and the grassland on site does not offer suitable terrestrial habitat to GCN. One pond 185m away could not be surveyed during the visit but given the lack of other ponds in the area and the distance between the site and the existing pond it is unlikely that GCN would be found within the vicinity of the site.

Reptiles

The site does not provide any potential refuges for reptiles and the vegetation provides sub optimal opportunities. The hedgerow bases are sparse and do not provide potential dispersal cover. Connectivity to the site is therefore limited.

5 POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

The proposed development will result in the loss of a small amount of improved grassland. The habitat type is of little ecological significance and the proposal will not have a major impact.

5.2 PROTECTED SPECIES ASSESSMENT

Badger

The survey revealed no signs of use by badger and there are no historic records of badger at the site. The proposals will have no impact on this species.

Bats

The proposed development will have no impact upon habitats which might be in use by bat species. The two mature sycamore trees within the hedgerow at the south boundary do not possess any potential roosting features. The construction of the dwelling will have no impact upon bat species.

Breeding birds

The habitats on site do not provide potential nesting sites for breeding birds and the adjacent hedgerows showed no evidence of nesting during the survey. The proposed development will have no impact on breeding birds.

Great crested newt

There are no ponds within 100m of the site and no records of GCN within 1km of the area. The terrestrial habitats on site do not provide suitable hibernation, sheltering or foraging opportunities for GCN and connectivity to the site is limited by poor hedgerows.

It is highly unlikely that GCN would be found on site and the proposed development will have no impact on this species. In order to remove any residual risk, works will proceed using precautionary measures.

Reptiles

Slow worm has been recorded 300m from the site with the record dating to 2011. The hedgerows around the site are mostly bare at the base and connectivity to the site is limited. The site does not offer suitable terrestrial habitat for reptile species and it is unlikely that they would be present. The proposed development will have no impact upon reptile species.

6 AVOIDANCE, MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

The loss of a small amount of improved grassland will not require mitigation.

6.2 PROTECTED SPECIES MITIGATION

Badger

There is no evidence of badger on or adjacent to the site and the proposals will have no impact.

Bats

The proposed development will have no impact upon bat species and no further survey work or mitigation is required.

Breeding birds

The development will have no impact on breeding birds and mitigation will not be necessary.

Great crested newt

- The grassland areas will be maintained at 10cm or less prior to and during construction to avoid creating attractive habitats for wildlife.
- All building materials, rubble, bricks and soil must be stored on raised platform (e.g. wooden pallets) to prevent their use as refuges by wildlife.
- Where possible, trenches will be opened and closed in the same day to prevent any wildlife becoming trapped. If it is necessary to leave a trench open overnight then it will be provided with a means of escape in the form of a shallow ramp.
- Any open pipework should be capped overnight. All open trenches and pipework should be inspected at the start of each working day to ensure no animal is trapped.
- In the unlikely event that common reptiles or amphibians are discovered on site, they will be allowed to naturally disperse. Advice should be sought from an

appropriately qualified and experienced ecologist if large numbers of common reptiles or amphibians are present.

- If a great crested newt is discovered at any stage then all work must immediately halt and an appropriately qualified and experienced ecologist and Natural England (0300 060 3900) should be contacted for advice.

Reptiles

The grazed improved grassland on site does not provide suitable terrestrial habitat for reptile species and it is unlikely that reptiles would be present on site. Mitigation is not required but precautionary working methods will remove any residual risk.

6.3 ECOLOGICAL ENHANCEMENT

In order to enhance conditions on site for a range of wildlife the new boundary of the dwelling will be planted with a native species hedgerow to include: hawthorn, hazel, holly, dog rose, wild privet and guelder rose.

7 SUMMARY

Planning permission will be sought for the construction of an agricultural dwelling at Garreg Lwyd Farm. Arbor Vitae were commissioned by Roger Parry and Partners to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

The proposed development will result in the loss of a small amount of improved grassland. The habitat type is of little ecological significance and the proposal will not have a major impact.

The proposed development will have no impact upon habitats which might be in use by bat species. The two mature sycamore trees within the hedgerow at the south boundary do not possess any potential roosting features. The construction of the dwelling will have no impact upon bat species.

The habitats on site do not provide potential nesting sites for breeding birds and the adjacent hedgerows showed no evidence of nesting during the survey. The proposed development will have no impact on breeding birds.

There are no ponds within 100m of the site and no records within 1km of the area. The terrestrial habitats on site do not provide suitable hibernation or foraging opportunities for GCN and connectivity to the site is limited by poor hedgerows. It is highly unlikely that GCN would be found on site and the proposed development will have no impact on this species. In order to remove any residual risk, works will proceed using precautionary measures.

The grazed improved grassland on site does not provide suitable terrestrial habitat for reptile species and it is unlikely that reptiles would be present on site. Mitigation is not required but precautionary measures will remove any residual risk.

In order to enhance conditions on site for a range of wildlife the new boundary of the dwelling will be planted with a native species hedgerow.

8 REFERENCES

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

Bat Conservation Trust (2018) Bats and artificial lighting in the UK. *Bats and the Built Environment series,* Guidance Note 08/18. Institution of Lighting Professionals.

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.

Collins, J. (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.

Gent, A.H., and Gibson, S.D, *eds* (2003) *Herpetofauna workers' manual.* Peterborough, Joint Nature Conservation Committee.

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.

Mitchell-Jones, T. (2004) Bat mitigation guidelines. External Relations Team, English Nature.

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

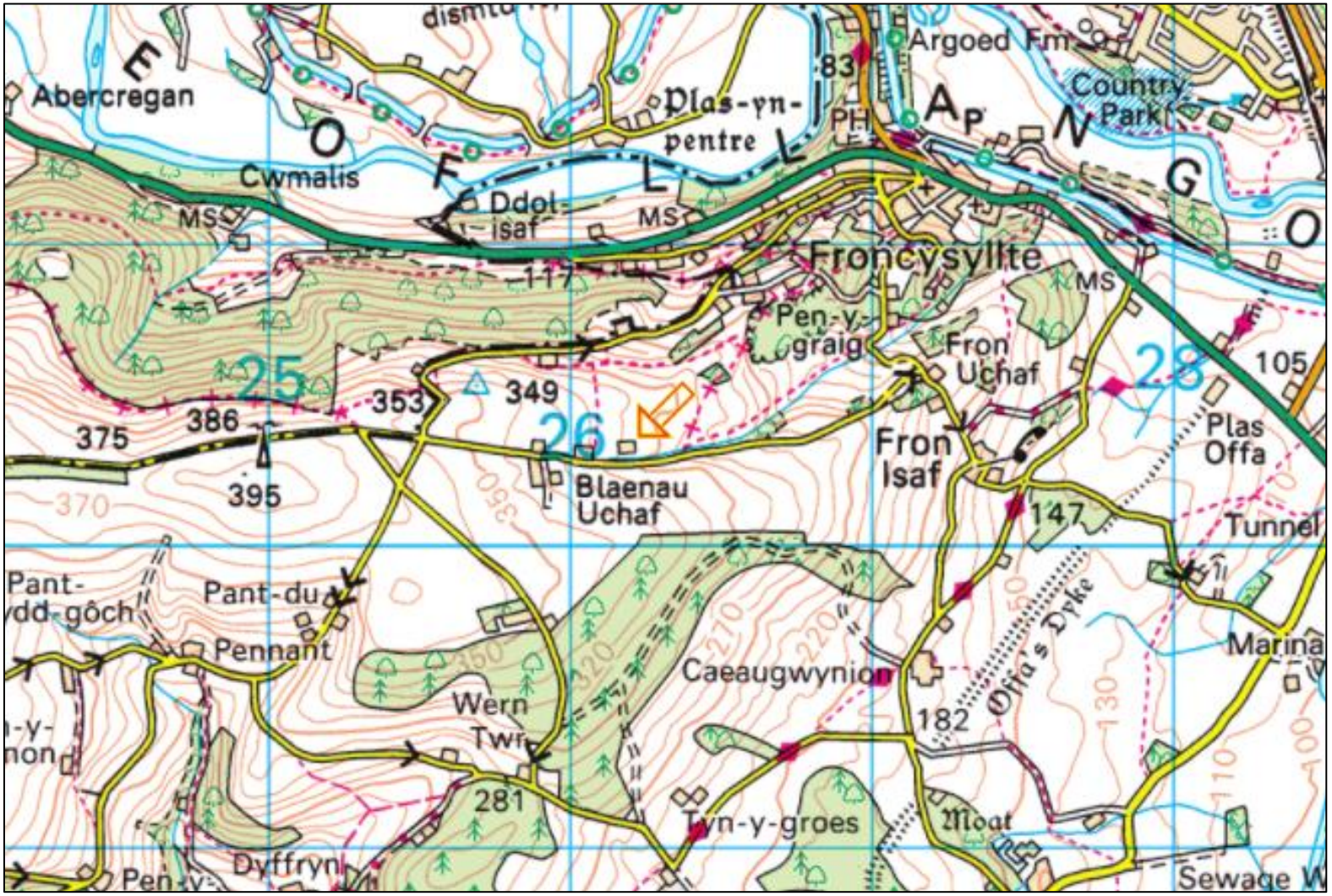


FIGURE 2 AERIAL PHOTOGRAPH



APPENDIX 1 PHOTOGRAPHS

	Proposed site for house.
	Existing access into field.
	Adjacent Leylandii at the south boundary.