ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE

# PRELIMINARY ECOLOGICAL APPRAISAL

# PARC CYNHINFA

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

**Project name:** **Parc Cynhinfa, Pontrobert, Meifod SY22 6JP**

**Grid Reference:** SJ09671208

**Date:** 31/03/2023

**Prepared by:** Phillipa Stirling BSc MSc ACIEEM

**Reviewed by:** William Prestwood BSc Director

**Requested by:** John Isaac

## Contents

# 1 INTRODUCTION

## 1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the installation of static caravans at Parc Cynhinfa, Pontrobert.

Arbor Vitae were commissioned by John Isaac 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

Parc Cynhinfa currently provides 69 privately owned static caravans, with a range of on-site facilities and a series or fishing pools available for use. Land surrounding the site is improved agricultural grassland, used for grazing livestock.

The proposal will include the installation of 5 new caravans with associated access tracks and services.

# 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, Data Map Wales and NBN Atlas.

## 3.2 SITE SURVEY

A site visit was made on 23/03/2023. 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

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

**Badger**

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

- Setts,
- Tracks and footprints,
- Latrines,

- Snuffle holes.

**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).

### 3.3 PERSONNEL

The survey was carried out by Phillipa Stirling MSc ACIEEM: Ecologist. Natural Resources Wales bat licence number: S091037-1 and GCN licence number: S089109-1.

### 3.4 CONSTRAINTS

Breeding birds would not have been present at the time of the survey but previous nesting and appropriate nesting sites would have been apparent.

## 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 |
|---|---|---|
| Gwaun Efail Wig | SSSI | 0.8km |
| Woodland at Ty'n-y-coed | Ancient semi natural woodland | 0.6km |
| The search included Ramsar, SSSI, SAC, SPA, LWS, NNR and LNR. [1] | | |

[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.

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 |
|---|---|---|
| **Mammals** | | |
| Otter | 0.9km | European Protected Species, Wildlife and Countryside Act 1981. |
| Badger | 0.7km | Protection of Badgers Act 1992, Wildlife and Countryside Act 1981. |
| Hazel dormouse | 0.9km | European Protected Species, Wildlife and Countryside Act 1981. |
| Noctule<br>Common pipistrelle<br>Soprano pipistrelle | 0.3km | European Protected Species, Wildlife and Countryside Act 1981. |
| **Birds** | | |
| Kingfisher<br>Brambling<br>Redwing<br>Fieldfare | 0.3-1km | Wildlife and Countryside Act 1981. |
| **Reptiles** | | |
| Grass snake | 0.9km | Wildlife and Countryside Act 1981. |

## 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 an agriculturally improved grassland field used for grazing sheep. The sward is cropped short and consists of: perennial ryegrass, annual meadow grass, creeping bent, cock's foot, white clover and chickweed.

*Amenity grassland*

A small area of amenity grassland within the existing park's curtilage will provide the site for 1 caravan. The grassland is regularly maintained and made up of a mixture of hardy grasses.

*Tree line*

There is a line of early and mature trees along the west boundary of the field site including poplar species, beech, Himalayan birch and common alder.

*Hedgerow*

There is a Leyland cypress and cherry laurel hedge surrounding the small area of amenity grassland where a single caravan will be sited. The hedge is maintained regularly at a height of approximately 2.5m.


## 4.3 ADJACENT HABITATS

*Wooded watercourse*

There is a small watercourse which flows along the northern boundary of the caravan park. The stream is bounded by broadleaved trees including: common alder, poplar species, ash, oak, hazel and hawthorn.

*Improved grassland*

Field parcels surrounding the site appear to be largely similar to the field site surveyed.

*Buildings*

The main caravan park lies to the west of the surveyed areas. There are caravans, agricultural buildings and traditional stone residences on site.

## 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. Opportunities for badger are limited on site due to the developed nature of the land.

*Bats*

Whilst the areas surveyed do not provide any suitable roosting opportunities for bat species, the wooded watercourse and the tree line on site provide potential foraging/commuting habitat for bat species in the landscape.

*Breeding birds*

There amenity grassland and improved grassland areas surveyed on site do not provide suitable habitats for breeding birds.

Hedgerow at the periphery of the site may provide nesting opportunities in quieter areas of the holiday park.

*Great Crested Newt*

Four areas of open water were identified within 250m of the survey sites.

Pond 1 is a large fishing lake, stocked with a number of commercial fishing species. For this reason, no further survey work with regard to GCN was carried out.

Pond 2 is a smaller fishing pond but it is also stocked with commercial species. Pond 2 was also not surveyed with regard to GCN due to its unsuitable nature.

Pond 3 & 4 are both small woodland ponds which are essentially the same waterbody, linked by a large overflow pipe and fed by site-wide drainage. Both ponds were assessed as the same waterbody using the Habitat Suitability Index Assessment (please see below).

There are no records of GCN within 1km of the site and the amenity & improved grassland habitats present within the site boundary provide negligible terrestrial opportunities for them.

**GCN HSI Calculator**

| | Pond Name | POND 3 & 4 |
|---|---|---|
| SI No | SI Description | |
| 1 | Geographic location | 0.5 |
| 2 | Pond area | 0.2 |
| 3 | Pond permanence | 0.9 |
| 4 | Water quality | 0.3 |
| 1 | Shade | 0.2 |
| 6 | Water fowl effect | 0.67 |
| 7 | Fish presence | 0.67 |
| 0.6 | Pond Density | 0.6 |
| 9 | Terrestrial habitat | 0.67 |
| 10 | Macropyhyte cover | 0.3 |
| **HSI Score** | | **0.44** |
| Pond suitability (see below) | | *Poor* |

# 5 POTENTIAL ECOLOGICAL IMPACT

## 5.1 HABITAT ASSESSMENT

*Improved grassland*

Small areas of improved grassland will be replaced by four areas of hardstanding to accommodate the new caravans. This habitat type provides very little ecological value.

*Amenity grassland*

One small area of amenity grassland will be replaced with a single area of hardstanding for a caravan. Amenity grassland provides negligible value in terms of habitats.

*Tree line*

A single large Western red cedar is likely to be removed adjacent to the amenity grassland area in order to accommodate the single caravan. Aside from possible bird nesting sites, the tree provides no other significant habitat. Replacement planting will be provided.

No other trees will be removed as a result of the project.

*Hedgerow*

No hedgerow removal is required as part of the proposals.

## 5.2 PROTECTED SPECIES ASSESSMENT

*Badger*

The proposals will have no impact upon badgers, their setts or foraging areas. The proposals will also have no impact upon likely badger habitat.

*Bats*

The proposals will not result in the loss, damage or disturbance of any potential bat roosting sites.

The proposed caravans will have no direct impact upon the wooded watercourse along the north boundary of the site. However, it will be necessary to adopt a Wildlife Sensitive Lighting Plan to ensure that there is no unsuitable light spill into the surrounding landscape.

*Breeding birds*

The removal of any vegetation has the potential to disturb breeding birds, if present. Precautionary working measures will be adopted during all work on site.

*Great crested newt*

Pond 1 & 2 are stocked with commercial fish species and were therefore not assessed any further with regard to GCN.

Pond 3&4 collectively provide 'poor' suitability as a breeding site for GCN. The habitats on site provide sub-optimal terrestrial opportunities for amphibians and it is unlikely that GCN would be found in the vicinity of the site.

Furthermore, studies have demonstrated that 95% of all summer refuges of GCN fall within 63m of their summer breeding pond (Jehle, 2000). Subsequent studies also found that capture rates of GCN were at their highest within 50m of a breeding site with a significant reduction in capture rates beyond 100m (Cresswell and Whitworth, 2004).

# 6 AVOIDANCE, MITIGATION AND ENHANCEMENT

## 6.1 HABITAT MITIGATION

*Tree line*

Replacement tree planting for the loss of a single Western red cedar will be incorporated into the landscaping plan for the site. It is recommended that at least 3 native trees are planted, such as sessile oak, field maple and wild cherry.

## 6.2 PROTECTED SPECIES MITIGATION

*Bats*

All artificial lighting will be designed with nocturnal wildlife in mind. The following measures will be incorporated into lighting plans for the site:

- Hedgerows and key habitat features including mature trees on the site will not be illuminated in order to retain dark movement corridors for nocturnal wildlife.
- Any exterior security or decorative lights to be installed on the development site will be less than 3 m from the ground and fitted with hoods to direct the light below the horizontal plane, at an angle of less than seventy degrees from vertical, and shall not be fixed to, or directed at, bat boxes or gables or eaves.
- Security lighting will be set on motion sensors with short timers (<1 minute) and will be LED with a passive infrared trigger.
- Lighting must be less than 3 lux at ground level and there shall be no light splay exceeding 1 lux along buildings, eaves or roof or adjacent hedgerows or trees.
- External lights will be hooded and directed toward the ground to reduce upward light spill.
- A warm white spectrum will be adopted throughout the scheme to reduce blue light component (<2700Kelvin).
- Internal luminaires will be recessed where installed in proximity to windows to reduce glare and light spill. LED luminaires will be used internally where possible due to their sharp cut-off, lower intensity, and dimming capability.
- Luminaires will always be mounted horizontally with an upward light ratio of 0%.

*Breeding birds*

In the first instance, all essential vegetation removal will be carried out between September and February of a given year. If this is not possible, all vegetation removal will only be carried out once a thorough inspection of the feature has confirmed that no nesting activity is present

As a precaution, a thorough ground inspection will be completed prior to works commencing on site if works start between 1st March and 31st August (inclusive) in any given year. If breeding birds are found, an exclusion zone of 5 metres should be implemented and maintained until breeding is complete and the fledglings have left the nest.

*General Avoidance Measures*

The following measures should be implemented to decrease the likelihood of killing/injuring small animals:

- The grassland areas will be kept short 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 should 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 should 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.
- Any common reptiles or amphibians discovered 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.

## 6.3 ECOLOGICAL ENHANCEMENT

Native species landscape planting is recommended between the new caravans on site. A mixture of shrubs and small trees should be used, such as: hazel, hawthorn, holly, rowan, spindle, honeysuckle, dogwood, Guelder rose and Wayfaring tree.

# 7 SUMMARY

Planning permission will be sought for the installation of static caravans at Parc Cynhinfa, Pontrobert. Arbor Vitae were commissioned by John Isaac to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

- The proposal will include the installation of 5 new caravans with associated access tracks and services.
- Small areas of improved grassland will be replaced by four areas of hardstanding to accommodate the new caravans. This habitat type provides very little ecological value.
- One small area of amenity grassland will be replaced with a single area of hardstanding for a caravan. Amenity grassland provides negligible value in terms of habitats.
- A single large Western red cedar is likely to be removed adjacent to the amenity grassland area in order to accommodate the single caravan. Aside from possible bird nesting sites, the tree provides no other significant habitat. Replacement planting will be provided.
- No hedgerow removal is required as part of the proposals.
- The proposals will have no impact upon badgers, their setts or foraging areas. The proposals will also have no impact upon likely badger habitat.
- The proposals will not result in the loss, damage or disturbance of any potential bat roosting sites.
- The removal of any vegetation has the potential to disturb breeding birds, if present. Precautionary working measures will be adopted during all work on site.
- Pond 1 & 2 are stocked with commercial fish species and were therefore not assessed any further with regard to GCN. Pond 3&4 collectively provide 'poor' suitability as a breeding site for GCN. The habitats on site provide sub-optimal terrestrial opportunities for amphibians and it is unlikely that GCN would be found in the vicinity of the site.
- Native species landscape planting is recommended between the new caravans on site in order to provide ecological enhancement.

# 8 REFERENCES


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**FIGURE 1 LOCATION**

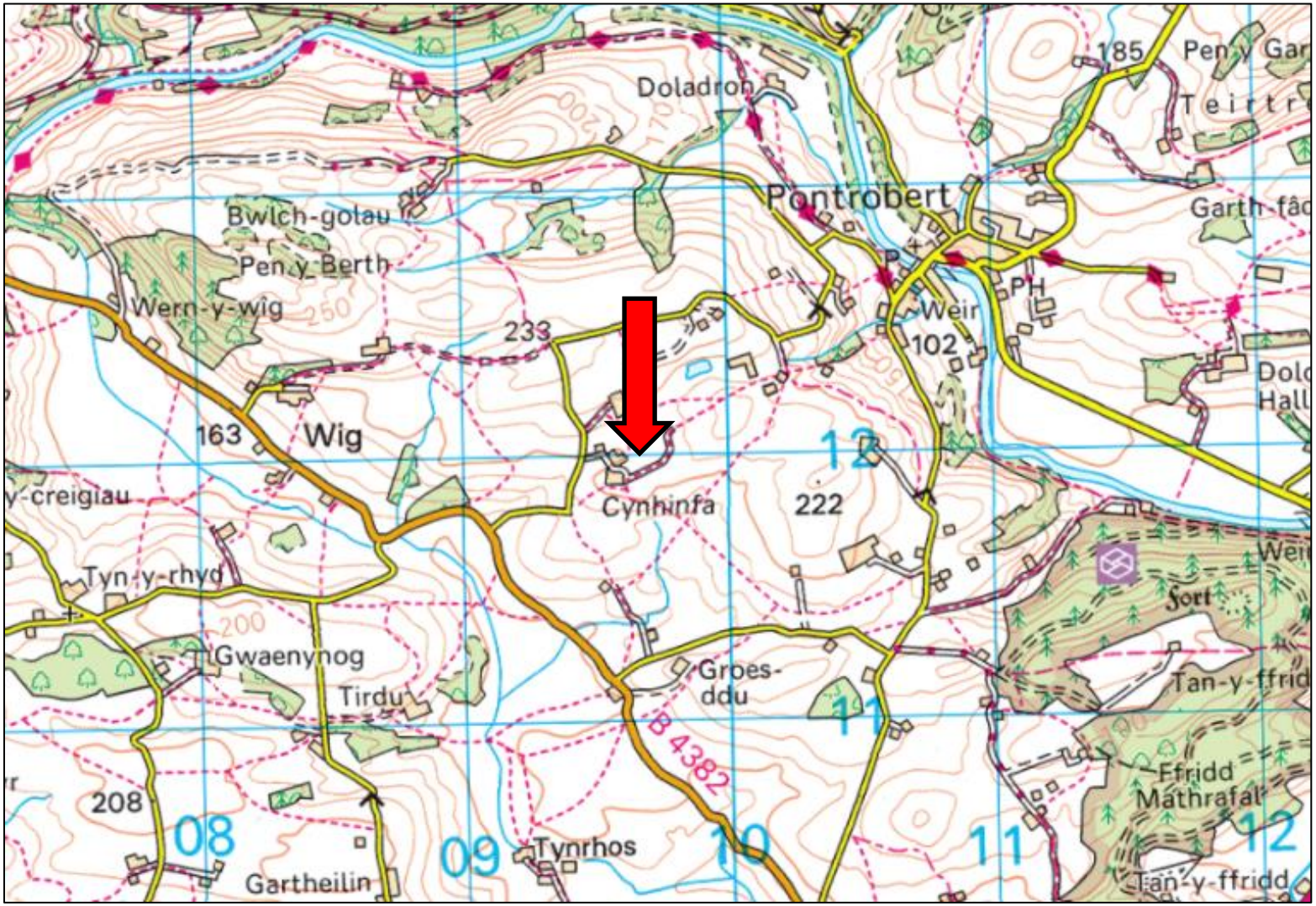




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**FIGURE 2 AERIAL PHOTOGRAPH**

**FIGURE 3 PROPOSED LAYOUT**

**APPENDIX 1 PHOTOGRAPHS**

Location for 1 caravan.

Location for 4 caravans.

Pond 1.

Pond 2.

Tree line and brook at north boundary.

Trees at west boundary of field site.

Pond 3.

Pond 4.

Western red cedar- possible removal.