

# EXTENDED PHASE ONE HABITAT SURVEY

**Land at  
CAE MAWR  
ANGLESEY**

Report for Roger Parry and Partners  
August 2018



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## 1 INTRODUCTION

### 1.1 BACKGROUND

Arbor Vitae were commissioned to carry out a Phase One Habitat Survey, including a Protected Species assessment, of land at Cae Mawr near Llanerch-y-medd, Anglesey. This land will be the subject of a planning application for the construction of a two free range egg-laying poultry buildings and associated infrastructure.

This report presents the results of a field survey carried out on 4 July 2018.

### 1.2 DETAILS OF PROPOSED WORKS

The work will involve the construction of two adjoining buildings to house free range egg-laying chickens. The buildings have a footprint of 2800 square metres and will house 32000 free range chickens. A ranging area will be provided over adjacent grassland and fencing will be erected to both protect chickens from predators and protect natural features such as hedgerows from excessive grazing. Access is already in existence through the farm yard to the existing, adjacent buildings.

The construction of the buildings will require the removal of a 95 metre section of hedgerow. The project will involve the creation of new native woodland areas and new native hedgerows.

### 1.3 SCOPE OF SURVEY

This report sets out to establish the base-line ecological condition of the site and to identify and evaluate any potential impacts which the scheme may have, taking account of any mitigation and enhancement to the ecology which the scheme can offer.

Construction of the buildings inevitably involves a change of land use and therefore has the potential to remove existing habitat and to physically disturb protected species, if present. The operation of the ranging area could have implications for habitats and species.

The Ammonia Modelling Report indicated that a nearby area of Ancient Woodland would fall within the range of ammonia Critical Level of  $1.0 \mu\text{g-NH}_3/\text{m}^3$ . This woodland therefore was also assessed as part of this survey.

The nature of the immediate and surrounding habitat indicated that the following species could theoretically be affected by physical disturbance of habitats.

Protected or priority species potentially affected:

- Badgers
- Bats



- Breeding birds
- Great crested newts
- Hedgehogs
- Otters

This report sets out the results of the field surveys and desk study, along with an assessment of potential ecological impacts of the construction of the new buildings and the creation of a ranging area for poultry. The potential impact of increased ammonia concentrations on the nearby ancient woodland is also considered. The potential impact of the spreading of manure is not considered in this report.

## 2 SITE DESCRIPTION

### 2.1 LOCATION AND LANDSCAPE

The proposed construction site is located on a grass field adjacent to and south west of the existing farm buildings at Cae Mawr. This farm lies between the villages of Llanerchymedd and Rhosybol in the north eastern sector of Anglesey. The site is 7 kms south of Amlwch on the coast and 1.1 kms east of Llyn Alaw.

The site lies 50 metres from the existing farmstead. The surrounding landscape is relatively flat and exposed with few woodlands or other features. Fields are almost all in grass and are generally small in scale. 91% of surrounding land within 1 km is improved grassland.

The land lies at approximately 60 metres AOD.

## 3 SURVEY METHODOLOGY

### 3.1 DESK STUDY

A number of data sets were investigated to ascertain the presence or otherwise of nearby land designations, scheduled sites or protected species. Sources which were used included MAGIC, COFNOD and Forestry Commission Land Information search.

### 3.2 FIELD SURVEY

One visit was made to the site on the 4 July 2018 to survey the property. The site was surveyed to identify specific habitats and potential opportunities for protected species. Adjacent land was inspected for evidence of key habitats or key species.

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 and priority species:



- Badger
- Bats
- Breeding birds
- Great crested newts
- Hedgehogs
- Otters

The survey methodology was tailored to evaluate the area for these species.

### ***Badgers***

An area within 50 metres of the site was closely searched for the following signs of badger activity: setts, tracks and footprints, latrines and snuffle holes.

### ***Bats***

Any nearby habitat such as old trees containing cracks and crevices were inspected from the ground for any signs of use.

### ***Breeding birds***

The habitat was assessed in terms of suitability for breeding birds, including any nearby hedgerows or trees.

### ***Great crested newts***

A map and ground search was made for any areas of open water within 250 metres of the construction site. These were assessed for their suitability as breeding sites for great crested newts using the Habitat Suitability Index.

### ***Hedgehogs***

The suitability of the site to provide foraging or breeding habitat for this species was assessed.

### ***Otters***

The site was assessed for its potential suitability for this species.

## **3.3 PERSONNEL**

The survey was carried out by Will Prestwood BSc Hons: an experienced ecologist and surveyor at Arbor Vitae Environment.

## **3.4 CONSTRAINTS**

There were no constraints to the survey being carried out successfully.



## 4 SURVEY RESULTS

### 4.1 DESK STUDY

#### **Nature conservation or other designations**

There are no designated nature conservation sites within the search area of 1km radius around the site. The nearest statutory site of ecological importance is:

**Llyn Alaw SSSI**, an extensive area of open water/reservoir, lies 1.1 kms to the west of the site.

There are six other SSSIs within 5 kms of the site, although two of these are notified for geological reasons.

Non-statutory sites within one kilometre include:

**Cae Mawr Wood (Wildlife Site)** lies 100 metres to the east.

Two areas of ancient woodland (AW), including Cae Mawr Wood, lie to the east of the site. Part of these are defined as being ASNW with the majority being PAWS.

No sites with statutory or non-statutory designations within the area would be directly affected by this development.

#### **Priority species**

COFNOD records indicate that 33 notable, including protected and priority species have been recorded within 1 km of the site. These species are listed in Appendix 1. Few of these species have relevance to this site other than a number of woodland bird and plant species which could be associated with Cae Mawr woodland. Bluebell, soft shield fern, mountain currant and rhododendron have been recorded by others within this woodland and confirmed as part of this survey.

### 4.2 HABITATS ON SITE

#### **Improved grassland**

The new poultry building will occupy land which is currently improved grassland and which is closely grazed by sheep and cattle. The sward contains a very limited range of species.

#### **Hedgerows (see Figure 3 for location)**

Hedgerow A: a former hedge boundary forms the western boundary of the site. This is marked by a high, stone-faced earth bank on which occasional mature hawthorn shrubs survive.



### 4.3 HABITATS WITHIN RANGING AREA

#### *Improved grassland*

Several fields immediately adjacent to the new building will provide the main ranging area for the chickens. These fields are improved grassland with a limited range of species.

#### *Standing water*

There are no ponds within 250 metres of the site.

### 4.4 ADJACENT HABITATS

#### *Broadleaved woodland*

Two areas of broad-leaved woodland on ancient woodland sites lie within 140 metres of the proposed shed.

The nearest section of this woodland to the west of the main road was surveyed as part of this assessment. The wood extends to approximately 1.2 ha and lies between the road and the farmstead.

The wood is primarily dominated by mature, broad-leaved trees. The canopy is more or less closed and dominated by sycamore with occasional beech and horse chestnut. Ash forms approximately 10% of the canopy but is restricted to areas near the stream. Other introduced non-native species include Wellingtonia, monkey puzzle, common lime and Douglas fir. The woodland has the appearance of having been planted as an amenity feature in the Victorian era and has used species in vogue at that time.

The understorey includes abundant sycamore with ash, holly, and occasional wych elm and wild cherry.

The shrub layer is heavily dominated by rhododendron with frequent holly and elder. Bramble is locally frequent with abundant sycamore regeneration. Other minor shrubs include hawthorn, gooseberry and mountain currant.

Ivy dominates the ground flora over large areas and there is extensive bare ground and leaf litter. Ferns are frequent including male fern, hart's tongue, broad buckler fern and soft shield fern. Characteristic ground flora species are very restricted but include occasional bluebell, herb bennett and red campion.

The wood includes a stream in a deep, steep-sided channel.



#### **4.5 PROTECTED AND PRIORITY SPECIES**

##### ***Badgers***

No badger setts are located within 50 metres of the site and there is no evidence that badgers use the site for foraging or for access.

##### ***Bats***

No potential bat roosts are present on or adjacent to the site. The fringe of the nearby woodland and lines of hedgerow may provide foraging habitat.

##### ***Breeding birds***

The site provides no opportunities for breeding birds other than in the adjacent hedgerow which, due its open and gappy character, provides very limited opportunities for birds.

##### ***Great crested newts***

No suitable areas of standing water exist within 250 metres of the site.

##### ***Hedgehogs***

The site holds no suitable habitat for this species.

##### ***Otters***

Although the nearby stream could be used by otters, the proposed building will have no impact on the water course.





## 5 EVALUATION OF RESULTS AND POTENTIAL ECOLOGICAL IMPACT

### 5.1 HABITATS

#### Improved grassland

The main habitat associated with this site is improved grassland. This is of negligible ecological interest and has little potential to support protected species.

#### Hedgerows

A length of hedgerow (95 metres) will be removed prior to the construction of the building. All native hedgerows are regarded as BAP habitats reflecting their value to wildlife. However, this hedgerow is very degraded and now restricted to isolated individual shrubs.

Removal of the hedge may disturb nesting birds and must be carried out outside the nesting season. Removal of the hedge will necessitate the planting of compensatory replacement hedgerows on the site.

#### Woodland

The Ammonia Modelling Report concludes that:

*The process contribution from the proposed poultry houses at Cae Mawr to annual mean ammonia concentration would exceed the Natural Resources Wales lower threshold percentage of the precautionary Critical Level of  $1.0 \mu\text{g-NH}_3/\text{m}^3$  over the western half of the AW directly to the east of Cae Mawr.*

The survey indicated that Cae Mawr wood maintains a semi-natural canopy but, in other respects, is seriously impoverished ecologically as a result of the dominance of non-native species including sycamore, beech and other planted non-natives. Rhododendron dominates large areas and the ground flora, where it exists, is dominated by ivy and ferns.

The woodland occupies an AW site and it retains a few AW features such as occasional bluebells. However, it is in a significantly unfavourable condition ecologically and would benefit from long-term restoration involving reduction of non-native species. Part of the western section is in any case managed as an open glade by regular mowing.

A small rise in ammonia levels may encourage an increase in nutrient levels in the woodland but the lack of sensitive plant species and the prevalence of non-native species renders this impact insignificant.



## 5.2 PROTECTED AND PRIORITY SPECIES

### ***Badgers***

No active setts were recorded within 50 metres of the site. The development will have no impact on badgers.

### ***Bats***

It is likely that bats use the adjacent hedgerows and nearby woodland fringe along which to forage. Any increased illumination of the site may disrupt flight lines but this can be minimised by appropriate exterior lighting systems.

### ***Breeding Birds***

One of the bird species recorded during the survey, dunnoek, is listed as a UK BAP species. Dunnock is also listed on the amber list of Birds of Conservation Concern.

The removal of any lengths of hedgerow should be within the period September to March to avoid the nesting season. If this is not possible, a site check should be carried out by an ecologist before work starts in order to ensure that no birds are nesting.

### ***Hedgehogs***

No habitat which could be considered suitable for hedgehogs will be affected by the construction of the new building.

### ***Otters***

No impact on this species is likely.



## 6 MITIGATION AND ENHANCEMENT

### 6.1 HABITAT MITIGATION

The loss of 95 metres of hedge will be mitigated by the planting of at least 100 metres of mixed, native hedgerow elsewhere and the restoration of the remaining length of Hedgerow A.

The potential for increased grazing pressure by chickens to damage hedgerow ground flora can be readily mitigated through double-fencing of all adjacent hedgerows. The protection of hedgerows which are currently grazed and browsed by sheep and cattle will be a significant ecological gain.

### 6.2 MITIGATION FOR ENHANCED AMMONIA LEVELS

Proposals have been made to plant a new woodland area as a 'sink' for increased ammonia levels. This will occupy an area of approximately 0.5 hectares.

It is also suggested that significant mitigation could be achieved by the long-term sympathetic management of Cae Mawr woodland. This is currently not in a favourable condition due to the prevalence of non-native species. Dense rhododendron in particular has shaded out the ground flora over large areas. The formulation and implementation of a Woodland Management Plan which would be aimed at restoration of the woodland would be of significant ecological benefit.

### 6.3 PROTECTED SPECIES MITIGATION

#### **Bats**

Artificial external lighting should be largely unnecessary but, if needed, should be designed to minimise illumination of the adjacent habitats which may be used by bats for foraging.

#### **Breeding birds**

Although disturbance to breeding birds will be negligible, hedgerow removal should be carried out outside the nesting season. Compensatory hedgerow planting will replace bird nesting habitat within a few years.

### 6.4 ECOLOGICAL ENHANCEMENT

The following measures are recommended in order to create ecological enhancements:

- New native hedgerow planting to provide increased habitat connectivity and nesting sites.



- All perimeter hedgerows and other hedgerows within the ranging area to be fenced to prevent access by chickens.
- Erection of bird and bat boxes on or near the site to improve opportunities for these species.

## 7 SUMMARY AND CONCLUSION

An application has been submitted for permission to construct two new buildings to house free-range poultry and to install associated infrastructure including access track and feed bins. This change of land-use could have implications for habitats and species of ecological significance, thus necessitating an assessment of the ecological value of the site.

In order to evaluate the potential ecological impact of this development, Arbor Vitae were invited to carry out an Extended Phase One Habitat Survey. This included an assessment of the value or potential of the site to support protected species and an assessment of the nearby woodland which falls within the ammonia exceedance zone.

The site was surveyed on the 4 July 2018. A desk study was carried out to ascertain existing nature conservation designations and known records for protected species within the vicinity.

The land affected by the proposal, including the site for the new building and much of the ranging area lie on improved grassland of minimal ecological value.

Llyn Alaw SSSI lies 1.1.kms to the west of the site. Two areas of ancient woodland exist within 100 metres of the site. One of these, Cwm Mawr wood, is a Wildlife Site.

The site is bounded by a sparse hedgerow on a raised embankment. This is in poor structural condition due to grazing pressure and lack of management. Nevertheless, native hedgerows recognised as BAP habitats and are of high ecological value. A 95 metre length of hedge will need to be removed.

An assessment was carried out for badgers, bats, breeding birds, brown hares, great crested newts, hedgehogs and otters. The survey concluded that no habitat of potential value to badgers, brown hares, great crested newts, hedgehogs or otters would be lost. The loss of 30 metres of hedgerow may have an impact on breeding birds. Exterior lighting could impact bat foraging behaviour and needs to be avoided or restricted.

The Ammonia Modelling Report identifies that approximately 0.5 ha of the nearest woodland to the site will experience enhanced ammonia levels in exceedance of EA critical levels. This woodland is a PAWS site but is dominated by non-native species, notably sycamore and rhododendron. The ground flora is very restricted and is dominated by ivy and ferns. Ancient woodland indicator species are sparse but include occasional bluebells. Although an ancient woodland site, the ecological value of the site is significantly reduced by the dominance of non-native species. It is not felt that any increase in nutrient levels which may result from increased



ammonia concentrations will be insignificant in light of the low ecological integrity of the woodland.

Mitigation for habitat loss will include the planting of at least an additional 100 metres of new native, mixed species hedgerow, the restoration of the remaining length of Hedgerow A and the double-fencing of all adjacent hedgerows to prevent grazing of ground flora by chickens. New native woodland will be created on at least 0.5 ha of land near to the farmstead.

Further mitigation will be achieved through the improved management of Cae Mawr woodland as set out in a Woodland Management Plan. This will focus on the long-term removal of non-native species from the woodland, particularly rhododendron.

Mitigation and enhancement for protected species includes ensuring that there is no increase in illumination of adjacent hedgerows or trees, the removal of hedgerow outside the nesting season and the erection of bird nesting boxes and bat roosting boxes.





FIGURE 1: LOCATION



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

FIGURE 2: SITE LAYOUT

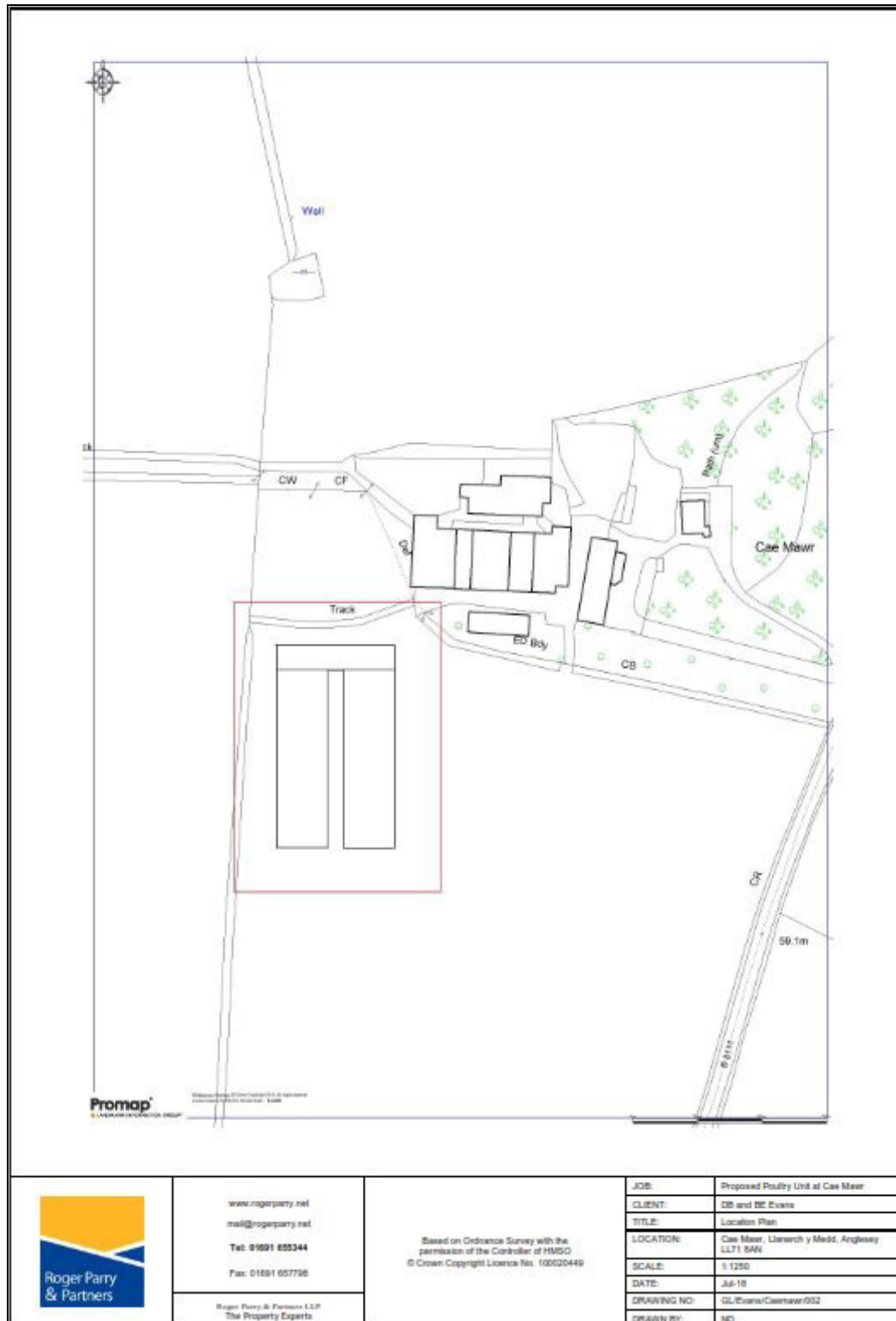


FIGURE 3 AERIAL PHOTOGRAPH



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



FIGURE 4 LOCAL SITES OF NATURE CONSERVATION IMPORTANCE (ANCIENT WOODLANDS) (SOURCE: COFNOD)

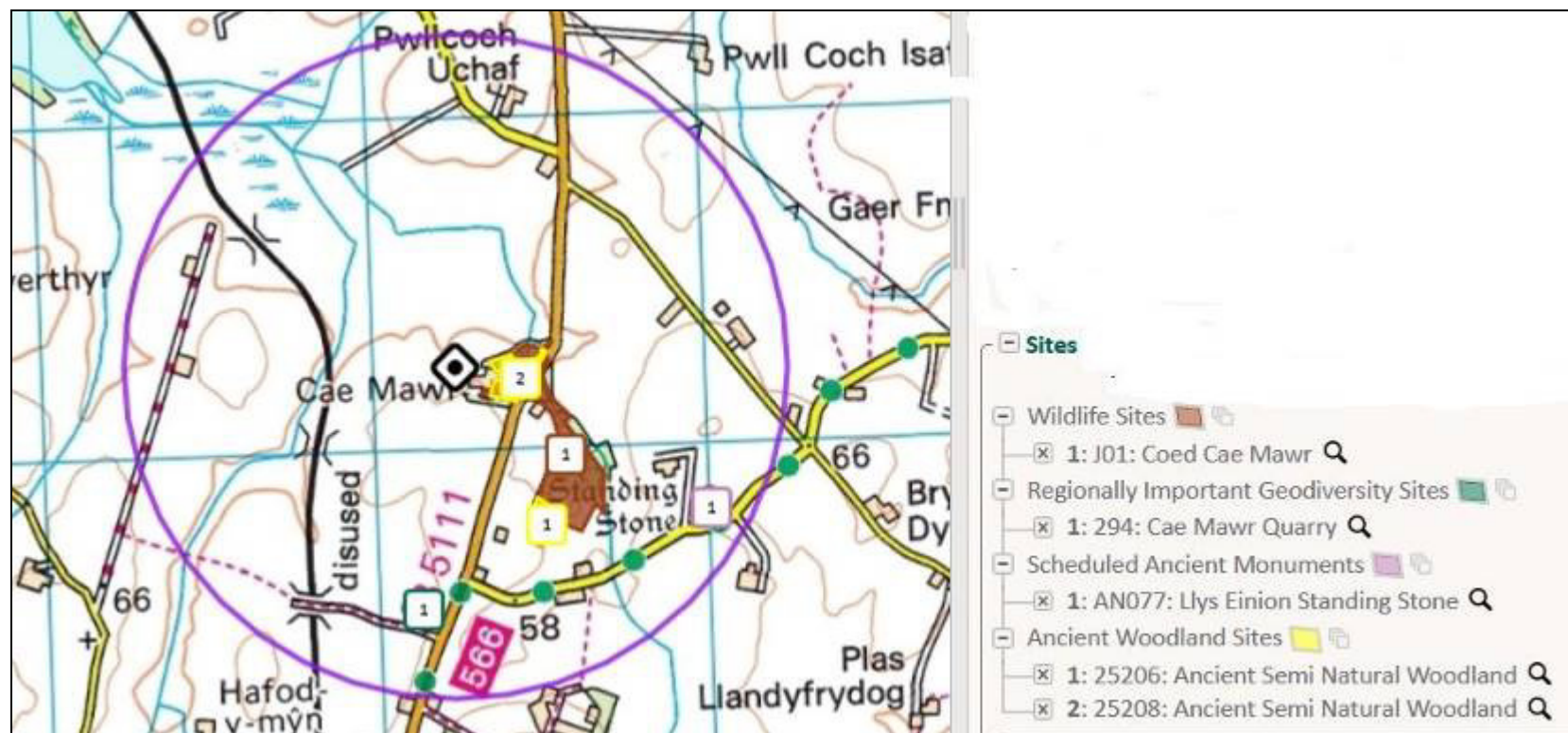
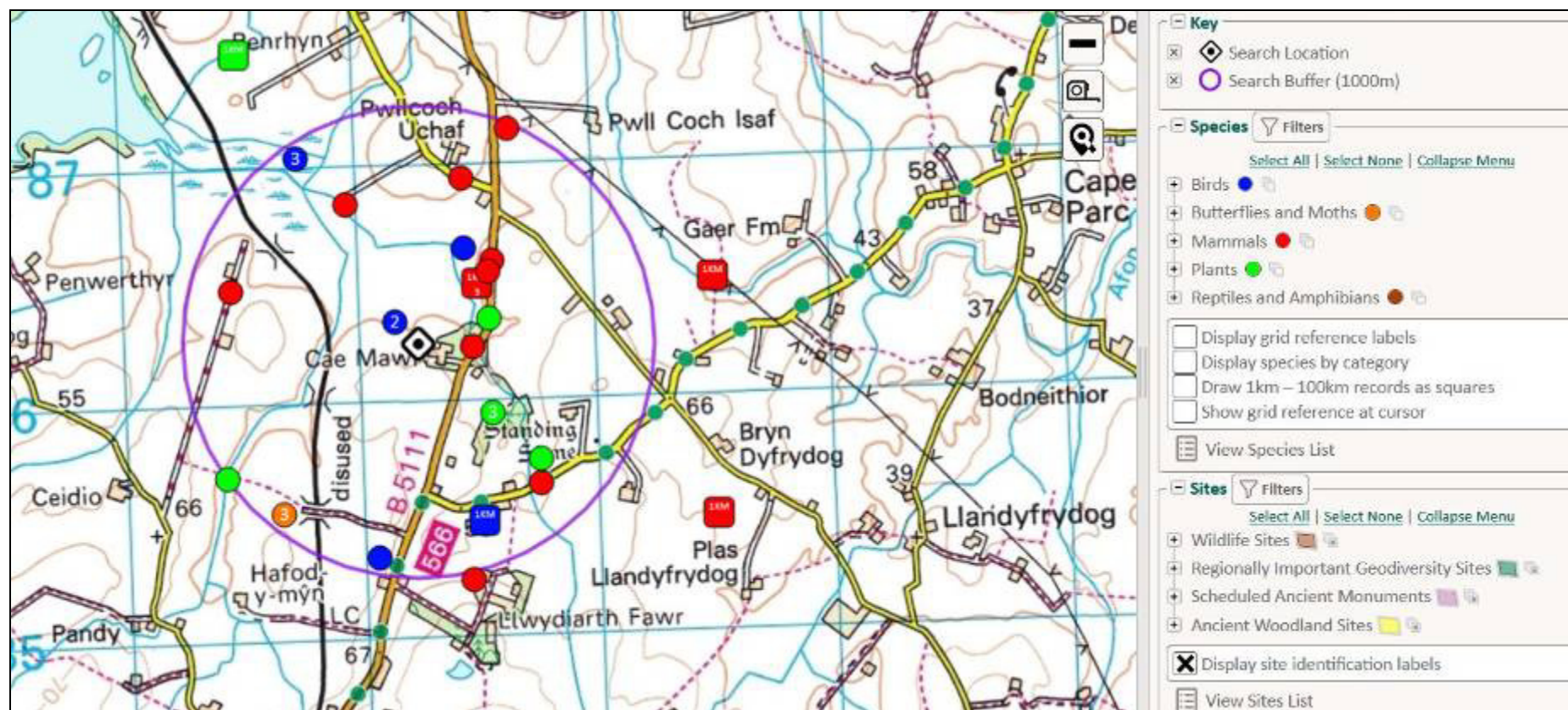


FIGURE 5 NOTABLE SPECIES RECORDED WITHIN 1 KM (SOURCE: COFNOD)






## APPENDIX 1: NOTABLE SPECIES RECORDED WITHIN 1 KM

Species Group	Scientific Name	English Name	Welsh Name	Earliest Year	Latest Year
Birds	<i>Alauda arvensis</i>	Skylark	Ehedydd	1983	2005
Birds	<i>Anthus pratensis</i>	Meadow Pipit	Corhedydd y Waun	1983	1983
Birds	<i>Cygnus cygnus</i>	Whooper Swan	Alarch y Gogledd	1999	2002
Birds	<i>Emberiza schoeniclus</i>	Reed Bunting	Bras y Cyrs	1983	1983
Birds	<i>Falco tinnunculus</i>	Kestrel	Cudyll Coch	2018	2018
Birds	<i>Gallinago gallinago</i>	Snipe	Giach Cyffredin	1983	1983
Birds	<i>Hirundo rustica</i>	Swallow	Gwennol	1983	1983
Birds	<i>Numenius arquata</i>	Curlew	Gylfinir	1983	2005
Birds	<i>Perdix perdix</i>	Grey Partridge	Petrisen	1983	1983
Birds	<i>Phylloscopus trochilus</i>	Willow Warbler	Telwr yr Helyg	2002	2002
Birds	<i>Prunella modularis</i>	Duncock	Llwyd y Gwrych	1983	1983
Birds	<i>Pyrrhula pyrrhula</i>	Bullfinch	Coch y Berllan	1983	1983
Birds	<i>Scolopax rusticola</i>	Woodcock	Cyfflog	2005	2005
Birds	<i>Sterna sandvicensis</i>	Sandwich Tern	Môr-Wennol Bigddu	2007	2007
Birds	<i>Sylvia communis</i>	Whitethroat	Llwydfron	1983	1983
Birds	<i>Tyto alba</i>	Barn Owl	Tylluan Wen	1983	1983
Birds	<i>Vanellus vanellus</i>	Lapwing	Cornchwiglen	2005	2005
Butterflies and Moths	<i>Lasioptera megera</i>	Wall	Gweirlöyn y Cloddiau	1983	1983
Mammals	<i>Arvicola amphibius</i>	Water Vole	Llygoden Bengron y Dwr	1983	2009
Mammals	<i>Erinaceus europaeus</i>	Hedgehog	Draenog	1968	2017
Mammals	<i>Lepus europaeus</i>	Hare	Ysgyfarnog	1965	2015
Mammals	<i>Lutra lutra</i>	Otter	Dyfrgl	2009	2012
Plants	<i>Crucifera laevipes</i>	Crosswort	Llysiau'r Groes	2008	2008
Plants	<i>Gnaphalium sylvaticum</i>	Heath Cudweed	Edafeddog y Rhos	1983	1983
Plants	<i>Hyacinthoides non-scripta</i>	Bluebell	Clychau'r Gog	1983	1993
Plants	<i>Mentha aquatica</i>	Water Mint	Mintys y Dwr	1983	1983
Plants	<i>Polystichum setiferum</i>	Soft Shield-fern	Gwrychredynen Feddal	1984	1984
Plants	<i>Ranunculus ficaria</i> subsp. <i>bulbifer</i>	Lesser Celandine		1986	1986
Plants	<i>Rhinanthus minor</i>	Yellow-rattle	Cribell Felen	1983	1983
Plants	<i>Rhododendron ponticum</i>		Rhododendron Wyllt	1984	1984
Plants	<i>Ribes alpinum</i>	Mountain Currant	Llwyn Cwrens y Mynydd	1984	1984
Plants	<i>Rorippa palustris</i>	Marsh Yellow-cress	Berwr Melyn y Gors	2006	2006
Reptiles and Amphibians	<i>Rana temporaria</i>	Common Frog	Llyffant Melyn	1983	1983





## APPENDIX 2: PHOTOGRAPHS

	<p>SITE OF PROPOSED SHED</p>
	<p>HEDGEROW A: NORTHERN SECTION TO BE RETAINED</p>
	<p>HEDGEROW A: SOUTHERN SECTION TO BE REMOVED</p>
	<p>CWM MAWR WOODLAND, SHRUB LAYER HEAVILY DOMINATED BY RHODODENDRON</p>

	<p>CWM MAWR WOODLAND, GROUND FLORA HEAVILY DOMIANATED BY IVY</p>
	<p>CWM MAWR WOODLAND, PART OF WESTERN SECTION NEAR HOUSE REGULARLY MOWN</p>