



## YSGOL THOMAS ELLIS, CAERGYBI

### PRELIMINARY ECOLOGICAL APPRAISAL

| DATE       | ECOLOGIST     | APPROVED    | VERSION | COMMENTS |
|------------|---------------|-------------|---------|----------|
| 19/10/2021 | Richard Cutts | Tim Yardley | V1      |          |

Report Ref: EE.970.21.RC

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Executive Summary

|                                      |  |                           |                |
|--------------------------------------|--|---------------------------|----------------|
| <b>Site</b>                          | Ysgol Thomas Ellis, Ffordd Treseifion, Caergybi, LL65 1LD  | <b>OS Grid Reference:</b> | SH 24529 81713 |
| <b>Surveyor(s)</b>                   | Tim Yardley<br>Richard Cutts   | <b>Survey Date:</b>       | 05/10/2021     |
| <b>Type of Survey</b>                | Preliminary Ecological Appraisal (PEA)   |                           |                |
| <b>Summary of Proposed work</b>      | Construction of a residential development  |                           |                |
| <b>Habitats affected</b>             | Ephemeral/short perennial, poor semi-improved grassland, planted broadleaved woodland  |                           |                |
| <b>Designated sites affected</b>     | The site is not within any designated sites. It is within 1km of six designated sites however the nature of the intended works will have no impact on the sites.   |                           |                |
| <b>Main results of survey</b>        | Phase 1 habitats within the survey area included ephemeral/short perennial, poor semi-improved grassland, hardstanding, planted broad-leaved woodland, scattered broad-leaved trees and scrub/species-poor hedgerow. The site has potential for protected species including reptiles, hedgehogs, bats and nesting birds. |                           |                |
| <b>Survey conclusions</b>            | The proposed works will result in the loss of habitat and so reasonable avoidance measures must be followed.   |                           |                |
| <b>Further Surveys Required</b>      | A reptile survey is required to ensure they are not present on site.   |                           |                |
| <b>Reasonable Avoidance Measures</b> | Reasonable avoidance measures have been recommended for reptiles and amphibians, mammals, bats and nesting birds. These include lighting recommendations, pre-works checks and general measures if animals are found within the works area.  |                           |                |

### 1.0 Introduction

- 1.1 Enfys Ecology Limited were commissioned by Anglesey Council to undertake a Preliminary Ecological Appraisal (PEA) of Ysgol Thomas Ellis, Caergybi.
- 1.2 The area surveyed is centred on approximate OS grid reference SH 24529 81713. The site was derelict, with all buildings having been previously demolished. It contained areas of rank grassland and overgrown hardstanding, and a block of planted broad-leaved trees.
- 1.3 The proposed works comprise the construction of a residential development.
- 1.4 Enfys Ecology carried out a PEA of the site, including a phase 1 habitat survey, protected species survey and a desk study examining local ecological records held by Cofnod, the North Wales Local Records Centre.
- 1.5 The surveys were commissioned to determine whether the proposed works would affect protected species. The surveys were also to gain baseline ecological data on the species and habitats present on the site, identify any potential ecological constraints to the proposed works arising from the site or surrounding area, and recommend suitable general mitigation and/or compensation strategies for these issues, as appropriate.
- 1.6 The survey work to inform this report was carried out in October 2021. Habitats and species found within a discrete area of land are subject to change; this report should therefore be considered valid for a period of two years (from October 2021) in accordance with best practice.

## 2.0 Site Description

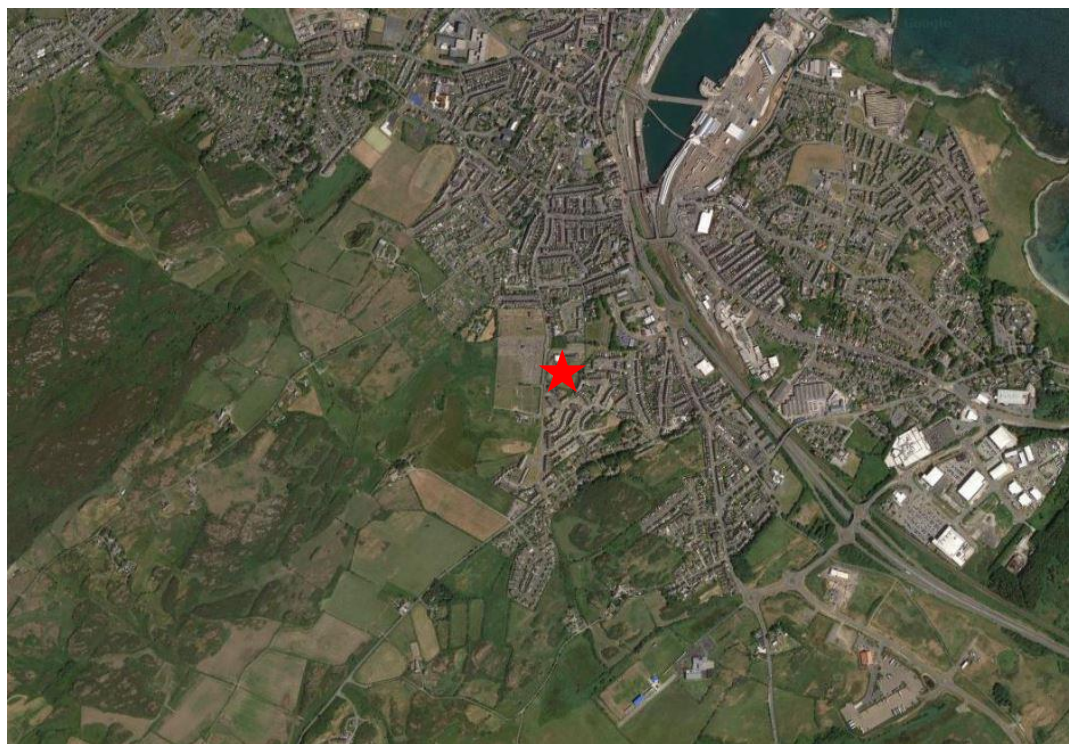
### 2.1 Survey area

2.1.1 The site is located near the southern end of Caergybi (Holyhead), on the western side of Anglesey. It is a derelict site that was previously a school with its associated grounds. The school buildings have been demolished. The site is enclosed by residential areas of Caergybi on three sides (including a small cemetery immediately to the north-east), and a large cemetery to the west (Figure 2.1).

2.1.2 The wider landscape comprises the town of Caergybi, with improved grassland to the south and west. The grasslands include small patches of woodland and scrub, with heathland further to the west (Figure 2.2).



**FIGURE 2.1. SITE LOCATION - THE APPROXIMATE SURVEY AREA IS SHOWN IN RED**  
BACKGROUND IMAGE © GOOGLE 2021



**FIGURE 2.2. WIDER SITE LOCATION - THE APPROXIMATE SURVEY AREA IS SHOWN BY RED STAR  
BACKGROUND IMAGE © GOOGLE 2021**

### 3.0 Methodology

#### 3.1 *Desk study*

The desk study was undertaken through Cofnod, the North Wales Local Records Centre, to determine the presence of statutory and non-statutory sites for nature conservation, and records of protected, notable, or (formerly) Biodiversity Action Plan (BAP) species and habitats from within a 2km radius of the site. The records were used to inform the survey and recommendations, and to provide context for evaluating the species and habitats found during the survey. Any relevant species results from the desk study will be referred to in Section 4.

#### 3.2 *Preliminary Ecological Appraisal (PEA)*

3.2.1 A survey was conducted by a suitably experienced ecologist walking over the site and immediately adjacent areas. All habitat types on site were visited. Notes were taken on the habitat types present, and their suitability for protected species, and target notes were used to record any habitats or features of particular note, following the standard methodology (JNCC, 2010).

#### 3.3 *Survey Details*

3.3.1 The PEA of the site was conducted on the 5<sup>th</sup> October 2021 by Tim Yardley and Richard Cutts, both suitably experienced professional ecologists. Conditions were overcast with a light breeze.

#### 3.4 *Limitations*

3.4.1 The results of this survey consist only of those species encountered during a short space of time on one day. Species that use the site infrequently or at different times of the year may not be recorded, and the absence of species from the results of a single survey should not be taken as indicating the species definite absence from the area in question. Descriptions of plant species concentrate on the most obvious and abundant species present as determinant of habitats present.

3.4.2 The time of year that the survey was undertaken was outside the optimum of April-September, meaning that the full range of species was not recorded.

#### 3.5 *Report and Terminology*

3.5.1 For the purposes of this report, the terms 'site' and 'survey area' are used to refer to the area surveyed on the ground by the ecologist at the clients request, which usually includes the entire area subject to the proposed works. 'Search area' is used to refer to the wider 2km radius from which records were sought for the desk study. English species names are generally used in the text with Latin names provided in the species list in the Appendices.

## 4.0 Survey Results: Preliminary Ecological Appraisal

### 4.1 Statutory and Non-Statutory Designated Sites

4.1.1 There are six statutory designated sites within 1km of the survey area. The survey area lies approximately 920m of Glannau Ynys Gybi (Holy Island Coast); this is both a Special Area of Conservation (SAC) and a Special Protection Area (SPA), designated due to its importance for vegetated sea cliffs and maritime examples of European dry heaths, and its population of chough. The section of the SAC/SPA nearest to the site also coincides with the Tre Wilmot Site of Special Scientific Interest (SSSI). The Anglesey Terns SPA lies approximately 580m to the northeast of the survey area and is designated because it is recognised as important breeding grounds for at least four tern species.

4.1.2 Approximately 550m to the south-west of the survey area lies the boundary for Ynys Môn/Anglesey Area of Outstanding Natural Beauty (AONB), which is a collection of varied landscapes. There is also a Scheduled Ancient Monument (SAM), the Roman walls at St Cybi's Church, 850m to the north of the site.

4.1.2 Non-statutory designated sites including the wildlife sites of Cors Pont Hwfa (760m north-west) and Rhostir Mynydd Celyn (720m south-west), and 40 listed buildings. There is also a Regionally Important Geodiversity Site (RIGS) 850m north of the site, coinciding with the Roman walls at St Cybi's Church SAM.

### 4.2 Extended Phase 1 Habitat Survey

#### 4.2.1 Habitat Types-

The following phase 1 habitat and feature types were recorded within and adjacent to the site:

- A1.1.2 Planted broad-leaved woodland
- A2.1 Dense scrub
- B6 Poor semi-improved grassland
- C1.1 Bracken
- J1.3 Ephemeral/short perennial
- J2.4 Fence
- J5 Hardstanding

4.2.2 A Phase 1 habitat map of the site is provided in Figure 4.1. Details of target notes from the map are provided below (Table 4.1).

### 4.3 Habitat descriptions

Table 4.2 below provides a description of the habitats including some species information within the survey boundary. Photographs of the site are included with the text.



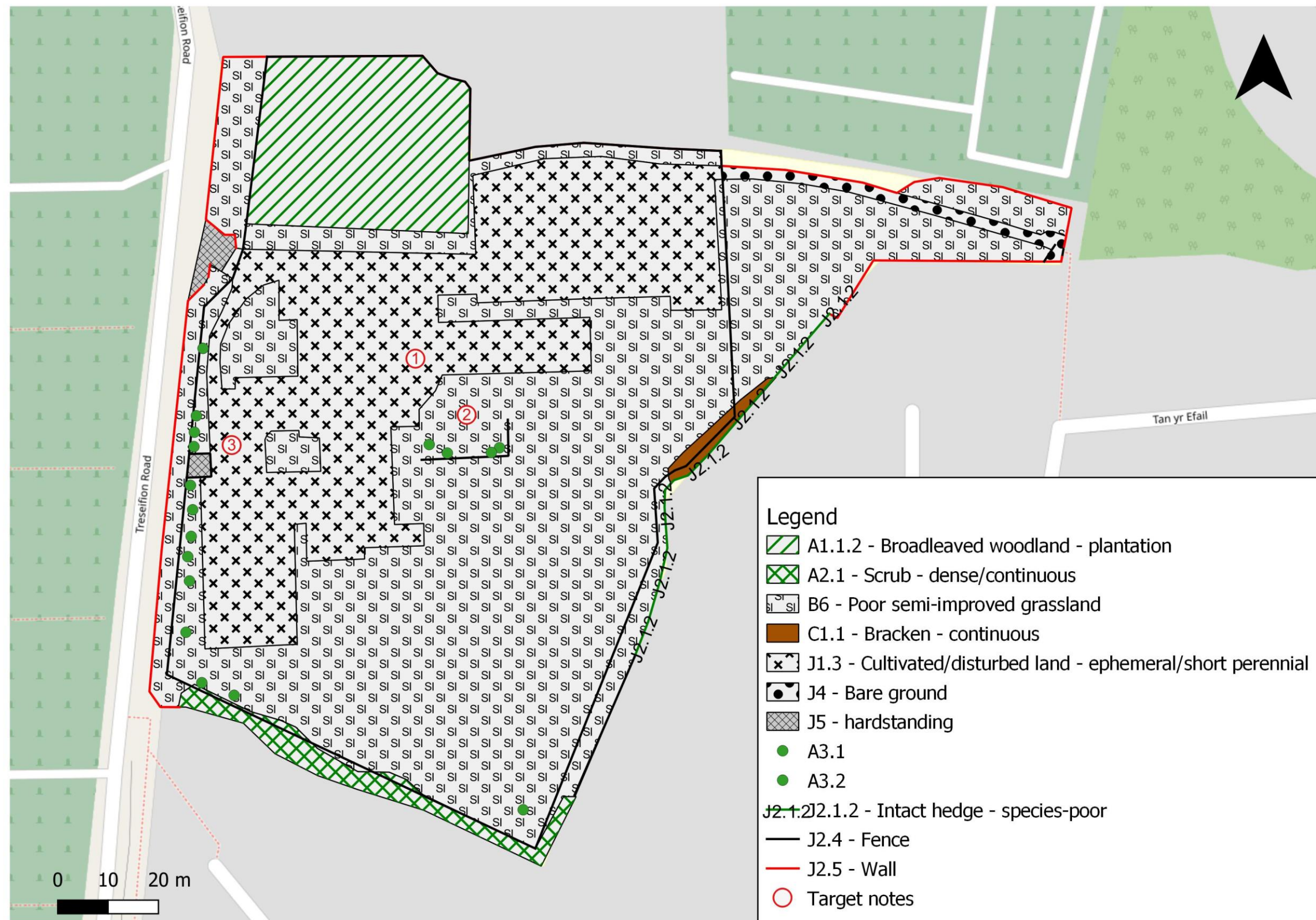




FIGURE 4.1 PHASE 1 HABITAT MAP OF SURVEY AREA. DESCRIPTIONS OF THE HABITATS FOLLOW IN THE SUBSEQUENT SECTIONS. © OPENSTREETMAP CONTRIBUTORS

TABLE 4.1. TARGET NOTE DESCRIPTIONS AND PHOTOS CORRESPONDING WITH PHASE 1 MAP.

| Target note | Description  | Photo  |
|-------------|--|--|
| 1           | <p>A sparsely vegetated rubble pile, roughly 3m high, was present in the centre of the site.</p> <p>A shipping container was positioned at the western end of the rubble pile.</p>   |   |
| 2           | <p>Immediately south of the rubble pile (target note 1) was a partially fenced area with various native and non-native plants mixed with the grassland flora. This appeared to be an overgrown garden.</p> <p>Additional flora included pampas grass, grape, wild strawberry, cordyline, apple trees, and a single cypress tree. A small patch of bramble was present at the eastern end of this area.</p> |  |



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## Ysgol Thomas Ellis: Preliminary Ecological Appraisal

|   |   |
|---|---|
| 3 | A single garden pansy was observed close to the western boundary of the site, and an iris was also seen nearby. These were most likely garden escapees and were not seen elsewhere on the site. |
|---|---|







**TABLE 4.2 HABITAT DESCRIPTIONS**

| Description   | Photo   |  |
|---|---|--|
| <p>This habitat was present is a rough strip running south-west to north-east across the western side of the site, where the school buildings and associated hardstanding had been demolished. A single piece of intact hardstanding, roughly 4m x 5m in size, was present behind fencing near the western boundary of the site.</p> <p>The substrate was a mixture of sand, gravel and rubble. It was colonised by a varied ephemeral/short perennial flora, generally providing patchy cover but denser in the north-east. Small patches of damper ground and standing water were also observed.</p> <p>The flora included white clover, dock, ribwort plantain, knotgrass, shepherd’s purse, common daisy, redshank, herb Robert, rosebay willowherb and taller grasses such as Yorkshire fog and perennial rye grass.</p> | <p><i>Ephemeral/short perennial</i></p>  |  |



**Ysgol Thomas Ellis: Preliminary Ecological Appraisal**

| Description   | Photo   |  |
|---|---|--|
| <p>This habitat was present across most of the site, including patches surrounded by ephemeral/short perennial habitat.</p> <p>Grasses dominated this habitat, including cock's foot, perennial rye, false oat grass and meadow-grass. Other flora included ragwort, creeping buttercup, dandelion, thistle and dock. This appeared to be amenity grassland that had subsequently become unmanaged and rank.</p> <p>Small trees were present in the grassland near to the western site boundary, and included rowan, birch, ash and a single ornamental cherry; the latter had produced several saplings through suckering, including dense growth adjacent to the road. A single mature ash tree was also present in the southern corner of the grassland.</p> <p>The eastern end of the site, separated by palisade fencing, was accessible to the public. A concrete</p> | <i>Poor semi-improved grassland</i>   |  |
|   |   |   |
|   |  |  |

## Ysgol Thomas Ellis: Preliminary Ecological Appraisal

| Description   | Photo   |  |
|---|---|--|
| <p>path ran along the northern edge of this section. Although it was a continuation of the grassland habitat, this area was notably strewn with rubbish. Patches of bramble, clematis and nasturtium were also noted.</p>   |   |   |
| <b><i>Planted broad-leaved woodland.</i></b>  |   |  |
| <p>At the north-eastern end of the site there was an area of woodland. This consisted of a mixture of species, including silver birch, ash, cherry, hazel, rowan, sweet chestnut, horse chestnut, sessile oak and crack willow. The mixture of species and regular spacing of the trees indicated that these trees had been planted. The understory was relatively sparse and dominated by ivy, Yorkshire fog and dandelions, with denser brambles in the south-west.</p> |  |  |

## Ysgol Thomas Ellis: Preliminary Ecological Appraisal

| Description   | Photo   |
|---|---|
| <p>The woodland had significant amounts of rubbish, particularly along the northern edge where it is adjacent to a public footpath.</p>   |   |
| <b><i>Dense scrub and bracken</i></b>   |   |
| <p>Dense blackthorn and bramble scrub formed the southern boundary of the site. Bracken and nettle were also present in this scrub. In places the scrub had spread through the palisade fence and was encroaching on the adjacent grassland.</p> <p>A thinner strip of blackthorn, bramble and bracken also formed a hedgerow on the eastern site boundary. A small patch of dense bracken extended into the site from this hedgerow.</p> |  |



4.4 *Flora*

4.5.1 Floral diversity of the site was moderate and floral species were those typically associated with the habitats on site. None of the species recorded during the survey are protected by the Wildlife and Countryside Act 1981 (as amended) or Section 7 of the Environment (Wales) Act, 2016. No other nationally or locally rare species were recorded.

4.5.2 No invasive non-native species (INNS) were recorded on the site. Records indicate that several species have previously been reported in the local area including Japanese knotweed (120 away), Himalayan balsam (270m away), and Montbretia (850m away).

4.6 *Fauna*

4.6.1 No notable or protected species, or signs of their presence, were found within survey area; The survey results for protected species including records within 2km of the site are described in Table 4.3 below.

**TABLE 4.3 RESULTS OF PROTECTED SPECIES SURVEY**

| Species                                   | Suitability of habitat  | Nearest record to site within last 20 years  |
|---|---|--|
| Amphibians<br>– Great crested newts (GCN) | <p>The site consists of ephemeral/short perennial habitat with a large pile of rubble which, along with the scrub along the southern boundary of the site, provides high quality foraging habitat, and places of rest and hibernation for great crested newts and other common amphibians.</p> <p>The immediate surroundings would provide limited suitable foraging habitat/However, although there is suitable habitat, including standing water bodies that could be used for breeding, further to the west.</p> | There were 50 records of GCN from within 2km of the site, with the nearest 350m to the west. |

| Species  | Suitability of habitat   | Nearest record to site within last 20 years  |
|----------|--|--|
| Badger   | <p>No setts or signs of badger activity were observed.</p> <p>The site was in a residential area but did have some potential for foraging and sett building.</p>   | <p>There were 42 records of badgers from within 2km of the site, with the nearest 200m away.</p>   |
| Bats     | <p>The site had low-moderate habitat suitability for bats. There were foraging opportunities as well as some connectivity in the area around the site, including that provided by the scrub and hedgerow along the southern and eastern boundaries. Small areas of hedgerow and woodland in the vicinity could provide limited foraging habitat.</p> | <p>Sixteen records of bats within 2km of the site, with the closest being 174m away. Common pipistrelle, soprano pipistrelle, <i>Pipistrellus</i> sp., brown long-eared bat, and noctule.</p>  |
| Birds    | <p>No nests or signs of nesting birds were seen elsewhere within the site.</p> <p>The areas of open ground within the site would not provide suitable nesting habitat. The woodland and scrub/hedges along the boundary would provide suitable shelter, foraging and breeding areas for birds.</p>   | <p>There were 3321 records of 102 species of birds within a 2km radius of the site.</p> <p>Records include several Schedule 1 species, the closest being Black Redstart, Chough, Common Crossbill, Fieldfare, Mediterranean Gull, Peregrine, Redwing and Whimbrel within 200m of the site.</p> |
| Hedgehog | <p>The woodland, as well as hedgerows and scrub at the edges of the site, provide high quality foraging and hibernation habitat for hedgehogs.</p> <p>The immediate area also provides moderate-good quality habitat for hedgehogs.</p>  | <p>One record of hedgehog 720m from the site.</p>  |

| Species      | Suitability of habitat   | Nearest record to site within last 20 years  |
|--------------|--|--|
| Otter        | <p>The coast and nearby rivers provide suitable commuting and foraging habitat for otters, although these are not in the immediate vicinity of the site.</p> <p>There was no suitable habitat for holt building seen in, or in close proximity to, the site.</p> | No records of otter within 2km of the site.  |
| Red Squirrel | The site contains trees and scrub, and therefore provides foraging habitat for red squirrels. However, it has patchy connectivity to larger wooded areas.  | No records of red squirrel within 2km of the site.   |
| Reptiles     | The site consists of ephemeral/short perennial habitat with a large pile of rubble which, along with the scrub along the southern and eastern boundaries of the site, provides foraging habitat, and places of rest and hibernation for reptiles.                | Fourteen records of reptiles within 2km of the site, with the closest being 520m away. Common lizard and slowworm. |
| Water Vole   | There is no suitable habitat within or in the immediate vicinity of the site.  | No records of water vole within 2km of the site.   |

## 5.0 Discussion and Conclusions

5.1 The proposed works comprise the construction of a residential development. Some vegetation clearance will be necessary.

### 5.2 *Designated Sites*

5.2.1 No statutory or non-statutory designated sites are within the proposed development area. There are six designated sites within 1km of the site; however, the proposed works will not have a detrimental impact on them.

### 5.3 *Habitats and Flora*

5.3.1 Under the proposed plans buildings will be constructed on the site. No rare or notable habitats were present within the surveyed area. The habitats in the development area are almost entirely perennial/short ephemeral and poor semi-improved grassland, of little ecological value, with some trees present on the boundary. Additionally, these habitats are not unusual in the vicinity.

5.3.2 The woodland, although planted, relatively young and currently in a poor state of management, contains native species and is one of only a few small blocks of woodland within the immediate area; it therefore has the greatest ecological value of all of the habitats present on the site.

5.3.2 None of the species recorded during the survey are protected by the Wildlife and Countryside Act 1981 (as amended), Section 7 of the Environment (Wales) Act, 2016 or are included in the UK Post-2010 Biodiversity Framework. In addition, no nationally or locally rare species were recorded. Therefore, the loss of habitat is not considered to have a negative impact on the surrounding wildlife, as long as the loss of habitat is compensated.

### 5.4 *Fauna*

#### 5.4.1 *Great Crested Newts (GCN) and common amphibians*

The perennial/short ephemeral habitat and central rubble pile, along with the scrub and hedgerow on the southern and eastern boundaries of the site, provide foraging habitat, and places of rest and hibernation for great crested newts and other common amphibians. The immediate surroundings have limited suitable foraging habitat but more there is suitable habitat, including standing water that could be used for breeding, a short distance to the west. Reasonable avoidance measures are provided in Section 7 to prevent risk to all protected and non-protected species that may use the site.

#### 5.4.2 *Badger*

There were no active badger setts or evidence of badgers within the survey site and due to the largely residential area around the site, and the generally sub-optimal habitat on the site,

it is unlikely that badgers will use the site for foraging. However, there were several records of badgers within 2km of the site. The proposed works will not cause disturbance to a badger sett or remove any potential foraging habitat; RAMs will be followed at all times during the works to minimise any risk or disturbance to potential badgers and other wildlife entering the site.

### 5.4.3 *Bats*

The site contains some suitable habitat for foraging bats, in particular the block of woodland at the northern end of the site. Hedgerows and scrub along the southern and eastern boundaries provide connectivity within the surrounding area. With records of bats within 200m of the site, it is likely that bats will forage and commute along the trees and hedgerows. Mitigation and enhancement recommendations for bats have been provided in Section 6. RAMs detailed in Section 7 will be followed to prevent disturbance to nesting birds.

### 5.4.4 *Birds*

There was no evidence of nesting birds within the site, however there were trees, scrub and hedgerows which had nesting potential. Therefore, the works will potentially result in the loss of shelter and nesting habitat. Mitigation and enhancement recommendations for nesting birds have been provided in Section 6. RAMs detailed in Section 7 will be followed to prevent disturbance to nesting birds.

### 5.4.5 *Hedgehog*

There is only one record of hedgehog nearby, 720m from the site. However, the site provides suitable commuting and foraging habitat and shelter for hedgehogs. RAMs will be followed to minimise any disturbance to hedgehogs that may enter the site.

### 5.4.6 *Otter*

As there are no records of otter within 2km of the site and the surrounding area is largely residential, it is unlikely that otters will move through or use this area. Due to the nature of the works and the lack of suitable habitat nearby, the proposed works will not cause disturbance to otters or damage or destroy a breeding site or resting place. RAMs will be followed to minimise disturbance to any otters that may enter the site.

### 5.4.7 *Red squirrel*

There are no records of red squirrel within 2km of the site, but there are trees and shrubs present within the site which would provide suitable cover and foraging areas for red squirrels. However, with few areas of woodland in the local area and patchy connectivity it is unlikely that they would be present on the site. RAMs will be followed to prevent risk to any red squirrels that may use enter the site.

### 5.4.8 *Reptiles*

Common lizard and slowworm have been recorded around 500m from the site. Most of the external habitats within the site provided suitable habitat for reptiles, including cover,

hibernacula, and foraging areas. If the works are to be undertaken during the winter months, then the rubble pile may be used as a hibernacula habitat. The adjacent cemeteries also provide good habitat for reptiles, and additional connectivity within the area, including to the areas where reptiles were recorded. Therefore, with records of reptiles, and suitable habitat adjacent to the site on two sides, a reptile survey is recommended to establish whether they may be present on the site. To avoid potential disturbance to reptiles, RAMs in Section 7 should also be followed during the works.

### 5.4.9 *Water Vole*

There are no records of water voles within 2km of the site, and a lack of suitable habitat within or adjacent to the site, so there is low risk for disturbing water vole. RAMs will be followed to prevent risk to any water voles that may be present on site.

## 5.5 *Conclusions*

5.5.1 Reptile surveys will be required to establish if reptiles are using the site, and if so, what mitigation will be required.

5.5.2 The works proposed will primarily take place on perennial/short ephemeral habitat and poor semi-improved grassland, and therefore will not have a detrimental impact on biodiversity in the surrounding area as long as adequate compensation and biodiversity enhancement is provided. Loss of the woodland habitat would have a greater impact on biodiversity in the area, and again adequate compensation and enhancement would be required. The main potential impacts are likely to be during the work; RAM's should be put into place to manage this risk (subject to the results of the reptile survey).

## 6.0 Biodiversity Enhancements

- 6.1 Planning Policy Wales (PPW) and the Welsh Government state that ‘development should not cause any significant loss of habitats or populations of species, locally or nationally and **must** provide a net benefit for biodiversity’ in accordance with Section 6 Duty of the Environment (Wales) Act 2016\* (see below). Mitigation, compensation, and enhancement measures will be put in place and are detailed below.

**\*Section 6 – Biodiversity and resilience of ecosystems duty**

Section 6 under Part 1 of the Environment (Wales) Act 2016 introduced an enhanced biodiversity and resilience of ecosystems duty (the S6 duty) for public authorities in the exercise of functions in relation to Wales.

*6. Biodiversity and resilience of ecosystems duty*

*(1) A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.*

- 6.1.2 Note: this section contains suggestions/recommendations for appropriate enhancements within the context of this particular site, which could be used to meet this requirement, it is not intended to be proscriptive and there may be alternatives which would be acceptable. Suitable enhancements will need to be incorporated into the plans submitted as part of a planning application for this scheme, as per planning policy of each council.
- 6.1.3 The proposed works in this case are confined to perennial/short ephemeral and poor semi-improved grassland habitats, scattered trees and planted woodland; as such the proposed works are not predicted to have a detrimental effect on biodiversity in the area providing enhancement is incorporated into the design. We have not seen any specific plans for the post works landscaping of the grounds in terms of species planting (see sections 6.4, 6.5 and 6.6 for further details).

### 6.2 *Bats*

- 6.2.1 As the habitat around the site is suitable for bats, it is desirable to provide some form of bat roosting opportunities to enhance the site for bats. Therefore, it is recommended that bat boxes could be added to the buildings within the site. A minimum of 1 box (per dwelling) suitable for crevice dwelling bats, plus a box suitable for larger noctule bats, would represent a useful addition to the site. Inbuilt boxes should be used as these are long lasting and required no maintenance, such as the habitat box. The boxes will be placed at least 4m above the ground and be placed facing preferably south, south-east and south-west.

### 6.3 *Birds*

- 6.3.1 In order to enhance the site for birds, it is recommended that at least twelve bird boxes are erected. Boxes should include:

- Boxes with a 32mm entrance (sparrow boxes), and
- for smaller birds (25-28mm), or
- 45mm opening (starling box)

6.3.2 The boxes should again be inbuilt, as they then require no further maintenance. If trees are retained on site, then further bird boxes could be securely mounted on trees using non-harmful nails (non-rusting – ideally aluminium) and face north/northeast. The boxes should ideally be woodcrete or woodstone boxes rather than wooden boxes as they will last longer with limited maintenance.

6.3.3 Bird boxes (on trees) should be inspected annually in October. Defective or damaged boxes should be replaced like for like at this time. Boxes should be inspected and cleaned with warm water before being returned to situ. Boxes must remain undisturbed at all other times.

6.3.4 There are several records of swifts within 2km of the site; swifts are a migratory species that travel to the UK to breed and are in serious decline, potentially due to the reduction in breeding sites. It is recommended that at least 2 multicavity swift boxes/bricks (per dwelling) are erected on or incorporated within the new buildings. Examples of swift nest boxes that can accommodate multiple breeding pairs of swifts are Habi Sabi double swift box and No. 17A Schwegler swift nest box, both available from [www.nhbs.com](http://www.nhbs.com).

6.3.5 The swift boxes should be placed at least 5m from the ground and be grouped together (60 – 100cm apart) as swifts prefer to nest in colonies. These should preferably not be installed on south facing elevations as the boxes can get too warm, unless white boxes (as recommended) are used so they do not absorb too much heat. Should bird droppings become an issue, or to prevent them becoming a potential issue, a droppings board can be erected under each of the installed swift boxes.

#### 6.4 *Reptiles*

6.4.1 The development will result in the loss of reptile habitat in this area; however, if the design does have provision for open spaces and garden areas, these could be enhanced for reptile species to replace the lost habitat.

6.4.2 Habitat connectivity for reptiles can be provided by planting a strip of vegetation around the edge of the site, such as a hedgerow consisting of a mixture of native species (e.g. hawthorn, blackthorn, hazel). This would be most effective if it was connecting to or enhancing the existing scrub/hedge along the southern and eastern boundaries of the site, and also on the northern edge of the site, where it would allow connectivity to the wider area.

#### 6.5 *Hedgehogs*



- 6.5.1 Due to the records of hedgehogs within the area, access should be provided between gardens, with small gaps or holes (approx. 13cm x 13cm) made in the bottom of the garden boundaries to allow hedgehogs and other species to commute and forage across the area (see Figure 6.1). Wherever possible native hedgerows should be planted either instead of, or alongside, the boundaries to provide areas for birds and invertebrates as well as shelter for small mammals, reptiles and amphibians. Species that provide a food source should be considered such as hazel, holly, blackthorn, rowan and guelder rose.



**FIGURE 6.1. EXAMPLES OF HEDGEHOG/SMALL MAMMAL ACCESS HOLES THROUGH FENCING AND WALLS.**  
@[www.hedgehogstreet.org](http://www.hedgehogstreet.org)

## 6.6 Habitats

- 6.6.1 In order to provide enhancement, planting associated with the development (for example flowerbeds, borders, etc.) should comprise native flowering plants to provide food sources and habitats for invertebrates. A mixture of species that gives flowers throughout the year should be used. We strongly recommend the addition of some natively vegetated areas to the grounds of the site, for example a hedgerow and beds of nectar producing plants for pollinators, if possible.

## 7.0 Reasonable Avoidance Measures

### 7.1 *Bats*

7.1.1 The works can be carried out at any time of year (subject to nesting bird restrictions), but there is likely to be some bat activity within and immediately adjacent to the site. To avoid disturbance to bats during the works, reasonable avoidance measures with regards to noise and lighting should be followed at all times during **all** works. These are set out in section 7.2, below.

7.1.2 If, in the unlikely event, bats are encountered at **any point** during any works, all works **must immediately stop** and a licenced ecologist must be called. A licence will then be required from Natural Resources Wales before works can continue.

### 7.2 *Lighting:*

The woodland and some of the surrounding habitats of the site are suitable for bats. Therefore, any lighting associated with the development, both during and after the works, has the potential to impact bats and nocturnal birds. In order to reduce the potential impact of any light spillage during the construction and post construction phases of the development, lighting design for the site (both during the works and of the completed development) should seek to minimise the levels of light shone above rooftop level anywhere on the site. The following recommendations should be used when forming the lighting plan for the proposed development (Bat Conservation Trust (2009) and Stone, E.L. (2013)):

#### *General Lighting Guidance*

- There must be no lights focused on any of the surrounding trees. There will be no illumination of the recommended bat and bird boxes (see below) once the works are complete.
- Construction should start at least one hour after dawn and finish at least hour before dusk during the summer months (May – August) to prevent light and noise levels disturbing the bats using the site.
- Any external or security lighting should be limited to provide some dark periods during the night. Ideally the lighting should be motion activated, and not stay on longer than one minute, in order to provide maximum darkness when not needed as well as providing safe lighting conditions of residents when required.

The following luminaire specifications are provided by Bat Conservation Trust and Institute of Lighting Professionals (2018) and must be incorporated into the lighting plan for the proposed development:

- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by the lighting professional.
- Column heights should be carefully considered to minimise light spill.
- Only luminaires with an upward light ratio of 0% and with good optical control should be used.
- Luminaires should always be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting should be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed.

### 7.3 *Nesting birds*

7.3.1 There is some potential for birds to be nesting in and around the site; therefore any works to the building or grounds will ideally take place outside the bird nesting season (from March to September [inclusive]). If it is necessary to work during the bird breeding season then a thorough check for nests must be carried out immediately prior to works starting to ensure that no active nests will be affected. If active nests are found then work must be delayed until all chicks have fledged.

7.3.2 As the work will likely result in the loss of some bird nesting habitat, it is recommended that some provision for birds is included in the plans for the new buildings. This is discussed in section 6.3, above.

#### 7.4 *Reptiles and amphibians*

7.4.1 Grass and other vegetation must be maintained at ground level or short height throughout the works to discourage reptiles from returning to the site.

7.4.2 All construction materials must be stored on hard standing as far away from the edge of the site as possible. Materials should be stored off the ground (e.g. on pallets) to prevent reptiles and amphibians from taking refuge in them.

7.4.3 Should it be necessary to have any excavation left open overnight, a suitable ramp (such as a plank or branch) must be provided to allow reptiles and other animals to escape the pit. Ramps could be created by grading the slope at the edges or using scaffold boards.

7.4.4 Any reptiles and amphibians encountered during works should be moved well away from the working area by site staff wearing gloves. Contractors should stop work immediately in that area and contact Enfys Ecology.

7.4.5 This general guidance for reptiles and amphibians may be updated following reptile surveys.

#### 7.5 *Biosecurity*

7.5.1 The following measures must be implemented at **all times** during **all works** on site:

Biosecurity means taking measures to ensure that good practices are in place to minimise the risk of importing and spreading invasive non-native species (INNS), pests and infectious disease. As non-native species or diseases could be transmitted in any water or material, a good biosecurity routine is essential, even if invasive non-native species are not apparent.

##### *Biosecurity Measures:*

- Any machinery should be washed clean of any plant debris before entering and leaving the site to prevent transmission of seeds.
- **All** footwear of staff entering or leaving site (for **any** reason and no matter for how short a time) must be cleaned (i.e. visually free of soil and debris) before leaving site.
- Soil and vegetation should be washed off with clean water (and brushes). Water (which should not be contaminated with any disinfectant or other pollutants) should then be disposed of by pouring on hardstanding.

- The wheels or tracks (and any other part which has come into contact with soil either outside or within the site) of all vehicles which are entering or leaving the area must be thoroughly washed and be free of soil and debris before accessing and leaving the site.

### 7.6 *Site General*

7.6.1 Suitable Reasonable Avoidance Measures (RAMS) will be implemented to reduce the potential to impact to amphibians, bats, nesting birds, and other species that may be found on site. Examples of such measures are set out in section 7.6.2. All measures in this section should be implemented as appropriate.

#### 7.6.2 *Reasonable Avoidance Measures*

The following measures should be implemented at all times during the works:

- Working areas should be kept to the minimum required.
- Storage of fuel must be properly bunded and machinery provided with drip trays, especially when refuelling. Refuelling and storage of potential pollutants should be restricted to site compounds and hardstanding areas, well away from the ditches and field drains, so that runoff can be prevented from entering watercourses.
- At the end of works each day, the site should be inspected by a responsible individual to ensure that the above protocols are being complied with.
- Any terrestrial mammals seen, for example otters or hedgehogs, must be allowed to leave the area on their own. If this is not possible, e.g. the animal is injured or trapped, then an ecologist must be called.

## 8.0 Legislation

### 8.1 *Bats*

The Wildlife and Countryside Act (WCA) 1981 (as amended) forms the key legislation protecting habitats and species in the UK. All UK bat species are fully protected under the 1981 Act through inclusion on Schedule 5. All bats are also listed under Schedule 2 of the Conservation of Habitats and Species Regulations (2017) which transcribes the EC Habitats Directive into UK law. In combination, this legislation makes it an offence to:

- Deliberately or recklessly take, injure or kill a bat;
- Deliberately or recklessly damage or destroy a place or structure used by bats for shelter or protection;
- Deliberately or recklessly obstruct access to a bat roost; or
- Deliberately or recklessly disturb bats while occupying a roost.

Bat roosts are protected under these laws whether the animals are present at the time of survey or not. Under both laws the Welsh Government and D.E.F.R.A. are empowered to issue licences to carry out work to bat roosts for reasons of overriding public interest. It is not illegal to tend to a disabled bat pending recovery.

### 8.2 *Badgers*

The Protection of Badgers Act 1992 fully protects badgers and their setts. Offences include:

- Killing, injuring and taking (or attempting these)
- Possession of a dead badger (or derivative)
- Cruelly ill-treating a badger
- Damaging a badger sett or any part of it
- Destroying a badger sett
- Obstructing access to / entrance of a badger sett
- Causing a dog to enter a badger sett
- Disturbing a badger whilst occupying a sett

Badgers are also listed on Schedule 6 of the Wildlife and Countryside Act 1981, which prohibits certain methods of killing and capture.

### 8.3 *Birds*

Under the Wildlife and Countryside Act, 1981 (as amended) and the Countryside and Rights of Way, 2000, all wild birds, their nests and eggs are protected during the breeding season (typically March to August inclusive). This makes it an offence to:

- Intentionally kill, injury or take any wild bird.
- Take, damage or destroy the nest of a wild bird included in Schedule ZA1.
- Take, damage or destroy the nest of any wild bird while that nest is in use or being built.
- Take or destroy an egg of any wild bird.

#### 8.4 *Great Crested Newts*

GCN are protected under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations', because they have declined throughout Europe in recent decades.

Under the Habitats Regulations, it is an offence if you:

- Deliberately capture, injure or kill any wild animal of an EPS,
- Deliberately disturb wild animals of any such species,
- Deliberately take or destroy the eggs of such an animal, or
- Damage or destroy a breeding site or resting place of such an animal

Disturbance includes, but is not limited to, any disturbance which is likely:

1. to impair their ability –

- to survive, to breed or reproduce, or to rear or nurture their young, or
- in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

2. to affect significantly the local distribution or abundance of the species to which they belong.

Under the Wildlife and Countryside Act 1981(as amended) (W&CA) it is illegal to:-

- Intentionally or recklessly disturb any great crested newt while it is occupying a structure or place which it uses for shelter or protection, 9(4)(b)
- Intentionally or recklessly obstructs access to any structure or place used by a great crested newt for shelter or protection, 9(4)(c)
- Sell, offer or expose for sale any great crested newt, 9(5)

It is, however, legal for you to tend a disabled GCN with the intention of releasing it, or to kill a GCN that cannot recover, as long as the injury was not a result of your unlawful act (Habitat Regulations 44(2); W&CA 10(3)(a)(b)).

#### 8.5 *Otter*

Otters are protected under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations', because they have declined throughout Europe in recent decades.

Under the Habitats Regulations, it is an offence if you:

- Deliberately capture, injure or kill any wild animal of an EPS,
- Deliberately disturb wild animals of any such species,
- Damage or destroy a breeding site or resting place of such an animal

Disturbance includes, but is not limited to, any disturbance which is likely:

1. to impair their ability –

- to survive, to breed or reproduce, or to rear or nurture their young, or
- in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

2. to affect significantly the local distribution or abundance of the species to which they belong.

Under the Wildlife and Countryside Act 1981(as amended) (W&CA) it is illegal to:-

- Intentionally or recklessly disturb any otter while it is occupying a structure or place which it uses for shelter or protection, 9(4)(b)
- Intentionally or recklessly obstructs access to any structure or place used by a otter for shelter or protection, 9(4)(c)
- Sell, offer or expose for sale any otter, 9(5)

It is, however, legal for you to tend a disabled otter with the intention of releasing it, or to kill an otter that cannot recover, as long as the injury was not a result of your unlawful act (Habitat Regulations 44(2); W&CA 10(3)(a)(b)). It is not necessary to obtain a licence to collect a dead otter (eg a road casualty) for the purpose of submitting it for post mortem as part of the Cardiff University Otter Project.

### 8.6 Reptiles

All British reptiles are protected from intentional killing, injuring and sale under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). These are as follows:

- Adder, *Vipera berus*
- Grass snake, *Natrix natrix*
- Slow worm, *Anguis fragilis*
- Common lizard, *Lacerta vivipara*



This legislation aims to protect them from persecution and also from exploitation in the pet trade, and for which the following are offences:

- Intentional killing, injuring or taking
- Intentionally or recklessly damaging / destroying a place of shelter / protection
- Intentionally or recklessly disturbing an animal in its place of shelter / protection
- Intentionally or recklessly obstructing access to its place of shelter / protection
- Possession (live or dead, including derivatives), sale and offering for sale.

#### 8.7 *Water Vole*

The water vole is listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), for which the following are offences:

- Intentional killing, injuring or taking
- Intentionally or recklessly damaging / destroying a place of shelter / protection
- Intentionally or recklessly disturbing an animal in its place of shelter / protection
- Intentionally or recklessly obstructing access to its place of shelter / protection
- Possession (live or dead, including derivatives), sale and offering for sale.

## 9.0 References and Information Sources

Bat Conservation Trust (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition. Bat Conservation Trust, London.

Bat Conservation Trust (2018) Bats and artificial lighting in the UK- bats and the built environment series [www.bats.org.uk](http://www.bats.org.uk)

JNCC (2010) *Handbook for Phase 1 Habitat Survey: a technique for environmental audit*. JNCC, Peterborough.

Stone, E.L. (2013). Bats and lighting: Overview of current evidence and mitigation guidance.

UK BAP 2007 Available: <http://jncc.defra.gov.uk/default.aspx?page=5705>

10.0 Appendices

**Appendix A. Plant Species List.**

(This list is not exhaustive). No protected or notably rare species were found.

| English Name               | Scientific Name               |
|----------------------------|-------------------------------|
| Apple                      | <i>Malus domestica</i>        |
| Ash                        | <i>Fraxinus excelsior</i>     |
| Barley(?)                  | <i>Hordeum vulgare</i>        |
| Blackthorn                 | <i>Prunus spinosa</i>         |
| Bracken                    | <i>Pteridium aquilinum</i>    |
| Bramble                    | <i>Rubus fruticosus</i>       |
| Broad-leaved dock          | <i>Rumex obtusifolius</i>     |
| Canadian fleabane          | <i>Erigeron canadensis</i>    |
| Cherry                     | <i>Prunus</i> sp.             |
| Cleavers                   | <i>Galium aparine</i>         |
| Clematis (Traveller's joy) | <i>Clematis vitalba</i>       |
| Creeping buttercup         | <i>Ranunculus repens</i>      |
| Cocks foot                 | <i>Dactylis glomerata</i>     |
| Common daisy               | <i>Bellis perennis</i>        |
| Common mouse-ear           | <i>Cerastium fontanum</i>     |
| Common nettle              | <i>Urtica dioica</i>          |
| Cordyline                  | <i>Cordyline</i>              |
| Crack willow               | <i>Salix fragilis</i>         |
| Cypress                    | <i>Cupressus</i> sp.          |
| Dandelion                  | <i>Taraxacum officinale</i>   |
| False oat grass            | <i>Arrhenatherum elatius</i>  |
| Garden pansy               | <i>Viola x wittrockiana</i>   |
| Grape                      | <i>Vitus</i> sp.              |
| Hawkweed                   | <i>Hieracium</i> sp.          |
| Hazel                      | <i>Corylus avellana</i>       |
| Herb Robert                | <i>Geranium robertianum</i>   |
| Horse chestnut             | <i>Aesculus hippocastanum</i> |
| Iris                       | <i>Iris</i> sp.               |
| Ivy                        | <i>Hedera helix</i>           |
| Meadow-grass               | <i>Poa</i> sp.                |
| Meadow thistle             | <i>Cirsium dissectum</i>      |
| Mustard                    | <i>Brassicaceae</i> sp.       |
| Nasturtium                 | <i>Tropaeolum</i> sp.         |

| English Name       | Scientific Name                   |
|--------------------|-----------------------------------|
| Pampas grass       | <i>Cortaderia selloana</i>        |
| Perennial ryegrass | <i>Lolium perenne</i>             |
| Ragwort            | <i>Jacobaea vulgaris</i>          |
| Redshank           | <i>Persicaria maculosa</i>        |
| Ribwort plantain   | <i>Plantago lanceolata</i>        |
| Rosebay willowherb | <i>Chamaenerion angustifolium</i> |
| Rowan              | <i>Sorbus aucuparia</i>           |
| Sessile oak        | <i>Quercus petraea</i>            |
| Shepherd's purse   | <i>Capsella bursa-pastoris</i>    |
| Silver birch       | <i>Betula pendula</i>             |
| Sweet chestnut     | <i>Castanea sativa</i>            |
| White clover       | <i>Trifolium repens</i>           |
| Wild strawberry    | <i>Fragaria vesca</i>             |
| Yorkshire fog      | <i>Holcus lanatus</i>             |