



# **CYNGOR GWYNEDD**

## **ECOLOGICAL SURVEY FOR NEW PRIMARY SCHOOL BUILD CRICIETH (A497)**

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## **1.0 INTRODUCTION**

Cyngor Gwynedd are investigating several sites in Cricieth, Gwynedd to build a new primary school. Cyngor Gwynedd now attempt to gain certification under the BREEAM Code for a Sustainable Built Environment for all new school builds in the county. A proportion of this certification involves Land Use and Ecology (LE 01- LE 05), basically what impact will the new build have on the existing ecological interest, can it be conserved and, indeed, can it be enhanced. Accordingly, surveys were carried out on 12<sup>th</sup> August 2019 during clear dry weather. Surveys focused on the ground vegetation of the field and the surrounding habitats. In addition, signs of Protected Species were also noted.

It is worth noting at the outset that there appear to be no known designated sites pertaining to the land subject to the ecological surveys. A COFNOD Local Records Centre search has been carried out of the site and no additional species records of note have been recorded.

It must be appreciated that the following report was a preliminary ecological survey to determine the suitability of the site for the new school. Owing to further ecological investigation, various building design versions and information that came to light as a result of the Arboricultural Survey (Luke O'Connor 13.7.20, which was further revised on 7.1.21), additional work was undertaken by **Gritten Ecology** on the trees on the site and their suitability as bat roosts. This has been detailed in a report (Addendum to Ecological Survey (17.3.21)) and a report on a number of tree bat emergence surveys (Ysgol Treferythyr: Bat Emergence Surveys of Selected Trees (20.5.21)).

During the field work for these bat surveys, further ecological appraisal of the site was made and it can be confirmed that the following original ecological survey of the site is still valid. No additional species or habitat developments of any significance have emerged since that time.

## **2.0 VEGETATION**

### **2.1 Legislative Context**

Under the Wildlife and Countryside Act 1981, it is an offence to intentionally pick, uproot or destroy any wild plant included in Schedule 8. Particular care must be taken if any plants (or habitats) listed under Section 42 of the NERC Act (2002) might be affected. This act was superseded by the Environment (Wales) Act 2016 and its Section 7 List of Species and Habitats of Principal Importance for Wales. The implications of this are that “Welsh Ministers” must take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section of the Act. The list of habitats and species is currently exactly the same as the Section 42 (2002) list but this is under review.

## 2.2 Results

Maps 1 and 2 shows the fields subject to the survey.



**Map 1: The proposed layout of the new school. 'Specimen' trees are marked T2, T3 etc. Red arrows mark badger feeding scrapes.**



**Map 2: Aerial view of the pasture. Note the woodland to the east and south-east.**

The survey will be divided into three sections since there are effectively three separate habitats involved.

### 2.2.1 The woodland

There is a small sheep-grazed woodland to the east and south-east of the field in which the school is to be built, shown in **Photos 1** and **2**. It will be retained in its present format as a habitat area for educational purposes. It is more or less dominated by mature Sycamore (*Acer pseudoplatanus*) with occasional mature Scots Pine (*Pinus sylvestris*) one of which has recently been felled. Other tree species found in this woodland include Holly (*Ilex aquifolium*), Ash (*Fraxinus excelsior*) and Hawthorn (*Crataegus monogyna*), although these are rare. There is a great deal of fallen timber stacked in untidy piles. Further details of the trees in this small woodland can be seen in the arboricultural report.

The ground flora is quite uninteresting, probably as it is open to sheep grazing from the adjacent pasture to the west. Species noted here (with DAFOR scale) include *Dactylis glomerata* (F), *Agrostis capillaris* (A), *Holcus lanatus* (A), *Urtica dioica* (F), *Rumex sanguineus* (F), *Viola riviniana* (O), *Hedera helix* (R), *Veronica montana* (R), *Cardamine flexuosa* (R), *Juncus effusus* (R), *Carex remota* (R), *Potentilla sterilis* (R), *Geranium robertianum* (R), *Athyrium filix-femina* (R) with a poor moss flora represented by *Kindbergia praelonga*, *Mnium hornum*, *Polytrichastrum formosum*, *Atrichum undulatum*, *Campylopus flexuosus*, *Hypnum jutlandicum* and *Dicranum scoparium*. The larger Sycamores are clothed with epiphytic bryophytes limited to *Hypnum andoi*, *Metzgeria furcata*, *Homalothecium sericeum* and, rarely, *Zygodon viridissimus*.



**Photo 1: The small woodland to the east of the pasture.**



**Photo 2: The woodland is grazed and has a poor ground flora as a result.**

Much of the ground is bare with no or very limited vegetation growth. A small patch of Bramble (*Rubus fruticosus*) has developed on top of one of the piles of brushwood where sheep have been unable to graze. Although the constants are missing this small area of woodland probably corresponds to **NVC: W11a *Quercus petraea*-*Betula pubescens*-*Oxalis acetosella*** woodland.

### 2.2.2 The pasture

This is illustrated in **Photo 3**.



**Photo 3: The pasture looking towards the A497 Cricieth-Pwllheli road beyond. It is set several metres below the road and bordered by a random stone wall.**

The pasture is located at SH492380 and at 28 metres asl. It can be clearly seen in **Map 2**, an aerial view of the site. The field is sheep-grazed and has been recently topped. Species noted (with DAFOR) were *Lolium perenne* (F), *Agrostis capillaris* (A), *Cynosurus cristatus* (A), *Holcus lanatus* (F), *Cardamine pratensis* (O), *Cerastium fontanum* (R), *Ranunculus acris* (R), *Trifolium repens* (O), *Juncus effusus* (R), *Taraxacum agg* (O), *Achillea millefolium* (R), *Cirsium arvense* (O), *Rumex obtusifolius* (R) and *Urtica dioica* (O). The pasture sward is 95% graminoids, probably because it receives annual treatment with NPK fertiliser. The sward is more or less uniform throughout the entire pasture, is floristically dull and corresponds to **NVC MG6: *Lolio-Cynosuretum cristati*** grassland.

There is a drain that runs roughly north-south along the western boundary of the site for the proposed school (red line boundary on **Map 1**)

which drains water from beneath the road to the north (**Photo 4**). This drain is dominated by *Juncus effusus* but is becoming choked with the invasive American Skunk Cabbage (*Lysichiton americanus*) (**Photo 5**) which presumably has escaped from a garden on the north side of the road. It will need controlling as it is highly invasive.



**Photo 4: The *Juncus effusus* dominated drain that runs along the western boundary of the proposed new school.**



**Photo 5: American Skunk Cabbage growing in the drain.**

There are a number of mature 'specimen' trees growing to the west and north of the field. A large Oak (*Quercus petraea*) (**Photo 6**) (marked T3 on **Map 1**) and an Alder (*Alnus glutinosa*) (**Photo 7**) (marked T4 on **Map 1**). The Oak will be retained but the Alder will have to be removed. A small group of three Sycamores is located along the northern boundary close to the road (marked T5, T6 and T7 on **Map 1**) (**Photo 7**). These are in varying stages of senescence and will require some arboricultural treatment (see Arboricultural Survey report).

### **2.2.3 The mainline railway**

This runs west-east along the southern edge of the pasture but is strictly outside the boundary of the proposed new school. It can be clearly seen on **Map 2**. Whilst it is outside the scope of the present survey, it is worthy of a rough floristic description as it may serve to illustrate how the flora of the pasture may change in the absence of grazing.

It is a more-or-less linear feature (**Photo 8**) made up of a variety of low-growing trees, namely, *Ulmus glabra*, *Alnus glutinosa*, *Prunus laurocerasos*, *P. spinosa*, *Sambucus nigra*, *Acer pseudoplatanus*, *Salix aurita* and *Rubus fruticosus*. The presence of abundant *Asplenium scolopendrium* and *Carex remota* indicates its base-rich status. It is presumed that the southern edge of this strip is regularly pruned by Network Rail.

### **2.2.4 Conclusion**

No protected species of plants were noted during the survey.





**Photo 6: The large Oak situated on the western boundary of the new school.**



**Photo 7: The Alder is shown in the middle of the picture.**



**Photo 8: The railway and its fringing vegetation can be seen to the top left of the picture. The sub-station and telephone mast are associated with the railway.**

### **3.0 BADGERS (*Meles meles*)**

#### **3.1 Legislative Context**

Badgers enjoy statutory protection under the Protection of Badgers Act 1992. Under this legislation, it is an offence to:

- willfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so,
- or to intentionally or recklessly interfere with a sett.

Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. Under this legislation, a sett is defined as “any structure or place which displays signs indicating current use by a badger”. It is thus important to be able to distinguish between an old unoccupied sett and one in current usage.

In Wales, the Welsh Government (WG) provide licences for developments and construction activities which might disturb badgers but for developments listed under S.55(1) of the Town and Country Planning Act 1990, it is Natural Resources Wales (NRW) who have the appropriate powers. Developments and construction activities include:

- the use of heavy machinery (generally defined as tracked vehicles) within 30 metres of any entrance to an active sett,

- the use of lighter machinery (generally defined as wheeled vehicles), particularly for any digging operations, within 20 metres,
- light work such as hand digging or scrub clearance within 10 metres.

In practice, construction activities that require blasting with explosives will need to be licensed if more than 30 metres from an active sett. Thus, the need for a licence (and mitigation) will depend on the precise location and extent of the proposed development in relation to an active sett. In any event, it is probably best to consult both NRW and WG if there is any reasonable doubt about the possibility of disturbance to a sett.

### **3.2 Survey Methodology**

Badgers are nocturnal animals and are rarely seen during the day, generally emerging from their setts at dusk. Thus, survey techniques rely on being able to detect field signs of these surprisingly common animals. Setts are the most obvious feature and a surveyor will be able to determine whether setts are active or not and gain some understanding of the population size and its fecundity by the number of entrances being used and the nature of the spoil outside these sett entrances. Other field signs include latrines, runs and footprints, feeding scrapes and the presence of their characteristic hairs caught on barbed-wire fences and other obstructions. If runs were located, these were followed for some distance in an attempt to find the location of active setts.

The entire survey area was assessed for signs of badgers.

### **3.3 Results**

Two signs of badger activity were noted within the woodland to the east of the site. The locations of these have been marked with a red arrow on **Map 1**. The westerly of the two was a small but fresh (recent) latrine located just over the fence from the railway. The easterly one was a small feeding scrape. No signs of a sett were noted within the woodland and it must be assumed that the sett lies outside the boundary of the site.

### **3.4 Conclusion**

It is unlikely badgers will be affected by the proposal.

## **4.0 BATS**

### **4.1 Legislative Context**

All species of bats have been listed on Annex IV of the EC Habitats & etc. Species Directive (1994). Bats are, therefore, 'European Protected Species'. The domestic UK legislation which underpins this Directive ensures that individual bats and their breeding sites (maternity roosts), nursery roosts and resting places (roosts) are protected. Many bat species are also listed under Section 7 of the Environment (Wales ) Act (2016). Before undertaking any works that might

either directly affect bats or their roosts, surveys have to be carried out to ascertain the degree, if any, of usage by bats. Should any signs of bats be found, a licence from NRW has to be applied for before works commence. Developers starting such works will be breaking the law if a licence has not been granted before works commence.

#### **4.2 Survey Methodology**

Details of surveys for bats are detailed in the **Gritten Ecology** Addendum to Ecological Survey (17.3.21) and a report on a number of tree bat emergence surveys (Ysgol Treferythyr: Bat Emergence Surveys of Selected Trees (20.5.21).

The reason detailed bat surveys were not undertaken during this current (preliminary) survey was because it was not clear at that time which trees would require removal. Indeed, the exact footprint of the proposed school had still to be established.

### **5.0 REPTILES**

#### **5.1 Legislative Context**

Under the Wildlife and Countryside Act 1981, it is an offence to intentionally kill, injure or take any reptile included in Schedule 5. In the present context, this would include Adder (*Vipera berus*), Common Lizard (*Zootoca vivipara*), Slow-worm (*Anguis fragilis*) and Grass Snake (*Natrix helvetica*). The Countryside and Rights of Way Act (NERC) 2006 gives additional protection against “reckless” behaviour that might endanger the life of these reptiles. All four species are included on the Section 42 list and are now included on the Section 7 list of the Environment (Wales) Act (2016). It is now accepted practice, where there is a known and significant population of any of the above reptile species or the development is of such a scale, to exclude them from the site by appropriate fencing, capture and translocation.

#### **5.2 Methodology**

It is most unusual to find reptiles during a survey, so survey was therefore based on simply assessing the suitability of the study area as reptile habitat. In addition, a number of pieces of corrugated iron (rubbish) were found within the woodland and these were lifted carefully to see if they were being used as refugia by reptiles.

#### **5.3 Results**

No signs of reptiles were noted during the survey. The main pasture is closely grazed and, therefore, makes sub-optimal habitat for reptiles.

## 5.4 Conclusion

Reptiles will not be affected by the proposal.

## 6.0 BIRDS

### 6.1 Legislative Context

Under the UK Wildlife and Countryside Act (1981), it is an offence to take, damage or destroy the nest of any wild bird while that nest is in use or being built, or to take or destroy an egg of any wild bird. Under the same legislation, it is an offence to intentionally or recklessly disturb any bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young, or disturb dependent young of such a bird. Many bird species are also listed under Section 7 of the Environment (Wales) Act (2016). Should there be a possibility that any bird nests be damaged during the construction of the new school, works would have to stop until the young had flown and there was no possibility of a second or subsequent brood being raised in the same nest.

### 6.2 Survey Methodology

A careful search was made throughout the survey area for nests and birds. Binoculars were used to facilitate identification. This was effectively a preliminary walk-over survey rather than following any standardised protocols.

### 6.3 Results

Surprisingly few bird species were noted during the survey. These are shown in **Table 1**.

Species	Species	Location
Nuthatch	<i>Sitta europaea</i>	Woodland
Robin	<i>Erithacus rubecula</i>	Woodland
Great Tit	<i>Parus major</i>	Woodland
Blue Tit	<i>Carduelis carduelis</i>	Woodland
Blackbird	<i>Turdus merula</i>	Woodland
Wren	<i>Troglodytes troglodytes</i>	Woodland
Carrion Crow	<i>Corvus corone corone</i>	Flying over pasture
Magpie	<i>Pica pica</i>	Flying over pasture
Buzzard	<i>Buteo buteo</i>	Flying over pasture
Pied Wagtail	<i>Motacilla alba</i>	Feeding on boundary wall
Chaffinch	<i>Fringilla coelebs</i>	Woodland
Swallow	<i>Hirundo rustica</i>	Flying over pasture

**Table 1: Birds seen during the survey.**

A single wren's nest was found in the root plate of a fallen Scots Pine in the eastern woodland but no other signs of nests were noted. It is unlikely there will be any ground-nesting species in the pasture itself.

#### **6.4 Conclusion and Recommendation**

Birds will not be affected by the proposal. However, before any tree works are started, a separate breeding bird survey should be carried out if the tree works are likely to be carried out during the bird breeding season (April-August).

#### **7.0 OTHER SPECIES**

Since there was no suitable habitat found within the study area, signs of neither water voles (*Arvicola amphibius*) nor otters (*Lutra lutra*) were noted.

#### **8.0 INVASIVE NON NATIVE SPECIES (INNS)**

Apart from the American Skunk Cabbage found in the drain, no other INNS were noted during the survey. The Skunk Cabbage will be suitably treated with herbicide by approved contractors.