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Preliminary Ecological Assessment

**Bryn Tawel, Brynsiencyn
Proposed Housing Development**

09.11.2021



Report by: Lizzie Richardson

Client: DU Construction Ltd, Bryn Tawel, Bryn Glas Estate, Brynsiencyn, Anglesey, LL61

**Planning
Authority:** Isle of Anglesey County Council

**Grid
Reference:** SH 48095 66943

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Figure 1: Site Location

Preliminary Ecological Assessment

Bryn Tawel, Brynsiencyn

Proposed Housing Development

9th November 2021

1. Summary

A preliminary ecological assessment, (PEA) was carried out by Cambrian Ecology Ltd at a site on the outskirts of the village of Brynsiencyn. It is proposed to develop a new housing estate on the site, with the creation of 12 units, an access road into the development and the retention of a green open space area.

No protected species were recorded during the survey but there is potential for nesting birds to be present within the two boundary hedgerows at the appropriate time of year. There is also potential for bats to be using these features as flight corridors. Some precautionary measures have therefore been recommended in regard to lighting along these features and across the site as a whole. Should it be necessary to remove any of these features during the course of the work, recommendations should be followed in order to prevent any negative impact on nesting birds. It is, however, recommended to retain the hedgerow boundaries as their removal could have a negative impact on Biodiversity and on protected species such as bats.

One non-native species in the form of Montbretia; (*Crocsmia x crocosmiiflora*) was recorded during the survey. This species is classified as an 'Invasive Non-Native Species', (INNS) under the Wildlife & Countryside Act and as a result there are legal implications with regards to causing or allowing the spread of this plant.

A biological records search was carried out with the Local Records Centre, (LRC) Cofnod to enable the site to be assessed in the context of the wider landscape.

Under Chapter 6 of Planning Policy Wales 11, planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. To satisfy this condition, it has been recommended that new species rich native hedges are planted along the south-east and north-west boundaries of the site. It is also recommended to install bat tubes into the rear elevation walls of the proposed houses on the south-west side of the site.

Key Messages:

- 1. The site is dominated by improved grassland, the loss of which will have no negative impact on biodiversity.**
- 2. No protected species were recorded during the survey but there is potential for nesting birds to be present in the hedgerow boundaries at the appropriate time of year and for these features to be used as bat flight corridors.**

3. Recommendations are also made in regard to lighting along the boundary features and across the site as a whole. See Section 9.2.3.
4. There will be a requirement for the Montbretia on site to be eradicated, as well as some 'Reasonable Avoidance Measures' (RAMs) during the construction phase to prevent any spread off-site, see Section 9.2.
5. Enhancements are recommended in the form of the planting of new species rich hedges along the north-west and south-east boundary lines and the installation of bat tubes at suitable locations. See Section 10.

2. Introduction

A PEA was carried out by Cambrian Ecology Ltd at a site on the outskirts of the village of Brynsiencyn. It is proposed to develop the site to create 12 new houses, an access road into the development and the retention of a green open space area.

The relevant planning authority is the Isle of Anglesey County Council, (IoACC).

The location of the proposed development is SH 48095 66943.

3. Methodologies

The site survey was carried out on 9th November 2021 by ecologist Chris Hall and assisted by assistant ecologist Lizzie Richardson. Chris has been working as an independent ecologist for 16 years and has held a bat license from CCW/NRW for 25 years. He is an associate member of Chartered Institute of Ecology & Environmental Management, (CIEEM). Lizzie has recently been employed by Cambrian Ecology Ltd.

3.1 Habitats

The survey identified baseline ecological conditions, as well as any important or notable habitats. All habitats within the proposed development site were classified and species lists were drawn up for each habitat type identified and the habitat condition was assessed. In the context of this report, *important or notable habitats* are considered to be those which are of a sustainable size and which meet any of the following criteria:

- Habitats which have a high intrinsic ecological value, i.e. they support a diverse range of vascular plant and/or faunal species;
- Mature or semi-natural habitats in built-up areas;
- Environment Wales Act priority habitats;
- Habitats considered having a significant extent and/or ecological interest.
- Invasive Non-Native Species

All habitats considered as having the potential to support rare, protected or otherwise notable species of flora and fauna were noted, as were any direct signs of these species. Where possible, habitats were cross-referenced to any relevant UK/Wales priority habitats.

3.2 Protected Species

The site was assessed on its potential to support any other protected or important species. During this survey, a search was made for field signs of protected or notable species and assessments made of the potential of habitats to support these species. In the context of this report important or notable species are considered to be those that meet any of the following criteria:

- Species protected by British or international law
- Environment Wales Act priority species
- Nationally rare or scarce species
- Species of Conservation Concern (e.g. JNCC Red List, RSPB/BTO Red or Amber lists)

3.3 Desk Study

The desktop study aims to collate existing information about priority species, habitats and designated sites within 1km of the survey area. This information has relevance to the likelihood of priority species being present within the survey area, as well as giving context to any species and habitat records from the actual site.

A biological records search was carried out with Cofnod for all priority species, habitats and designated sites as recommended in the guidance from CIEEM. This enables the proposed development site to be assessed in a wider context and a potential wider ‘zone of influence’ of the development to be taken into account. The search parameters were 1km from the survey site area.

4 **Survey Limitations**

Field signs for protected and important species are often difficult to find or absent from a site. For this reason, the site and its habitats are assessed on their potential to support these species.

5 **Results**

5.1 Habitats

Improved Grassland

Improved grassland is the dominant habitat on the site, and it shows signs of heavy grazing. The dominant species is perennial rye grass; (*Lolium perenne*) with occasional stands of common bent; (*Agrostis capillaris*) on the boundaries of the field. The broad-leaved species assemblage is comprised of a limited range of species including white clover; (*Trifolium repens*), creeping buttercup; (*Ranunculus repens*), ribwort plantain; (*Plantago lanceolata*) and broad-leaved dock;

(*Rumex obtusifolius*). There are occasional small stands of nettle; (*Urtica dioica*) present at the boundaries of the field where hedgerows are present.

Hedgerows

There are two separate hedgerows present on boundaries of the site, both of which demonstrate very similar species compositions and both of which have recently been heavily cut back.

The south-west boundary of the site is a species-rich intact hedge of approximately 2m height, which is built on the remnants of a clawdd. The hedge is comprised of a range of species including hawthorn; (*Crataegus monogyna*), blackthorn; (*Prunus spinosa*), elder (*Sambucus nigra*), dog rose; (*Rosa canina*), ivy; (*Hedera helix*) and bramble; (*Rubus fruticosus*). There are occasional stands of hart's tongue fern; (*Asplenium scolopendrium*) and nettle present in the understorey.

The hedge on the north-east boundary is slightly shorter in height at approximately 1.5m but still offers a dense, continuous line of cover. The species composition is very similar with hawthorn, blackthorn, elder, ivy and bramble all being present. There appears to be the remnants of a fence and/or wall present within sections of the hedge, which is no longer clearly visible due to dense growth. There is a stand of montbretia located within the north end of the hedge line.

Stone wall

There is a section of stone wall running along the north-west boundary of the site, which is approximately 1m high. This wall is mostly mortared and in good condition. There are some minor gaps and cracks present at points within the wall, but the surrounding habitat is closely cropped improved grassland; it is therefore very unlikely that these features are being used by species such as reptiles.

5.2 Protected Species

There is potential for nesting birds to be present, at the appropriate time of year, within the boundary hedgerow features.

There is also the potential for bats to be using the hedgerows as flight corridors, although there were no bat roosting features recorded on the site.

There were no other signs of protected species recorded during the survey.

5.3 INNS

One INNS listed under the Wildlife & Countryside Act in the form of Montbretia was found to be growing on the site within the northern section of the hedgerow boundary on the north-east side of the site. There are legal implications regarding the possible spread of this species during the demolition and site clearance operations.

5.4 Desk Study

The desk study data search carried out for a 1km radius of the site revealed several protected/designated sites within the search area although none that directly covered the site itself.

The nearest statutory designated site is the Ynys Môn Area of Outstanding Natural Beauty (AONB) which lies 233m to the south-east of the surveyed site.

There is also one wildlife site, an Ancient Semi Natural Woodland site and one Restored Ancient Woodland Site (RAWS) all located within the 1km search area.

There are also three separate records of bat roosts within close proximity to the site. Two of these records do not specify species whilst the third record is for a presumed maternity roost of a pipistrelle species.

There are also several records of swifts; (*Apus apus*) within close proximity of the site; these include a record of swift breeding activity within 95m of the site boundary.



Figure 2: Protected/Designated Sites: Ynys Môn AONB in blue, Wildlife Site in brown and Woodland Sites in yellow.



Figure 3: The location of the swift records within the 1km search area.

6 Habitat Evaluation & Impact Assessment

6.1 Habitats

Improved Grassland

The improved grassland on the site is very species poor as would be expected from such a heavily improved and grazed site. The majority of this habitat will be removed in order to be replaced by buildings, a new access road and gardens. There will however be a 547m² area of green recreational space retained on the north-east boundary of the site. It is considered unlikely that the loss of the improved grassland habitat will have a negative impact on Biodiversity.

Hedgerows

The hedgerows present on two boundaries of the site are species-rich and offer a range of food sources for pollinators, other invertebrates, and birds. The hedgerows also provide a line of dense continuous cover, which is likely to provide habitat for nesting birds at the appropriate time of year.

The hedgerows also allow connectivity with the wider habitat; although this is dominated by improved grassland the presence of frequent hedgerows across the landscape does allow connectivity to small remnant woodland areas. There is, therefore, the potential that these hedgerow features are being used as flight corridors by bats as well as being used by other species to allow safe commuting between habitat areas.

Hedges are a 'Priority Habitat' across Wales including Anglesey and as a result any loss of this important habitat should be avoided.

It is therefore recommended to retain these hedgerow features, and recommendations are also made in regard to lighting along the hedgerows.

Stone Wall

Due to the limited presence of features within the wall and the lack of suitable surrounding habitat it is considered unlikely that it is providing any habitat features for protected species.

7 Species Evaluation & Impact Assessment

7.1 Bats

Although no bat roosts will be lost as a result of the proposal, habitat fragmentation can have a negative impact on bats. Any interruption/severing of flight paths, either physical or due to inappropriate lighting, can not only result in the bats being unable to access foraging areas but also cause the abandonment of roosts as a result. The impact is primarily on the slower flying *Myotis*, *Rhinolophus* and *Plecotus* species. Even species such as pipistrelles can be inhibited from flying across very open illuminated areas.

All the above could have a negative impact on bat species at a local level, which could extend to a regional level if any maternity roosts are impacted. Due to the mobility of the bat species, any negative impact can extend beyond the application boundary, extending the ‘zone of influence’ of a development over a much wider area.

In this case the hedgerows, which border the site, have the potential to be used as flight corridors for bats. It is recommended that the hedgerow boundary features are retained and that no lighting is to be installed along the boundary lines. Considerations must also be made in regard to lighting across the site as a whole.



Figure 4: Aerial photograph showing potential bat flight path features within the site boundaries.

7.2 Nesting Birds

Nesting birds are highly likely to be present in the hedgerows at the appropriate time of the year. Any disturbance during the nesting season resulting in the failure of the brood could have a negative impact at a local level.

All birds, with the exception of some 'pest species' which can be controlled under licence, are protected while nesting. This factor must be taken into account in the mitigation strategy.

8 **Protected Sites Impact Assessment**

Due to the distance of the protected/designated sites from the proposed application boundary, it is not considered feasible that the proposals could have any negative impact on any designated/protected sites.

9 **Mitigation Measures**

9.1 Habitats

Improved Grassland

Due to the poor species diversity of this feature any loss of the improved grassland habitat will have no impact on biodiversity and, therefore, no mitigation measures are required.

Hedgerows

It is recommended that the current hedgerow boundary features are retained. The loss of these features would have a negative impact on biodiversity as they likely provide a food source and habitat features for a range of species, including nesting birds. There is also potential that the hedgerows are being used by bats, from nearby recorded roosts, as flight corridors to access foraging habitat.

The current site plans indicate that there will be no impact on or need for removal of these features. The hedgerow on the south-west boundary will be adjacent to the gardens at the rear of the proposed houses, whilst the hedgerow on the north-east boundary will again lie adjacent to gardens and a designated green recreational space. See Figure 5.

Recommendations are made in regard to lighting in order to avoid any negative impact on bats which may be using these features as flight paths, see Section 9.2.1



Figure 5: The site plan showing proposed layout which would not necessitate the removal of any hedgerows. .

9.2 Protected Species

9.2.1 *Bats*

To ensure that there is no negative impact on the hedges and associated potential roosts, flight paths and foraging areas, there will be no illumination of any boundary line features and lighting use across the rest of the site will also be minimised.

The type of lighting can be a potential issue with lights containing a high UV component being problematic for a number of reasons. In addition to the ‘light barrier’ effect of bright illumination the light UV component attracts species such as *Pipistrellus* and *Nyctalus* which prey on the insects attracted to the light. This can result in darker areas in the vicinity become ‘prey depleted’ due to the insects having been attracted to the lighter areas. This puts light-sensitive species such as *Myotis*, *Rhinolophus* and *Plecotus* at a competitive disadvantage.

To prevent any ‘light barrier’ impact, and problems associated with lighting with a high UV component, the following measures will be implemented:

- All exterior lighting will be ‘low level’.
- The illumination used will be ‘Light Emitting Diodes’ (LEDs).
- The illumination will all be directional and downward facing which is easily achieved when using LEDs. There must be no upward illumination.
- All luminaires will lack any UV component.
- Luminaires with a ‘warm white’ spectrum should be used, (ideally <2700 Kelvin) to reduce blue light component.

- Luminaires should feature peak wavelengths higher than 550nm to avoid the light component most disturbing to bats.

9.2.2 *Nesting Birds*

It is recommended that the hedgerow features are retained, due to the distance of the proposed buildings from these features it is not considered likely that there will be impact on nesting birds during the course of works and therefore no further mitigation is required.

9.3 *INNS*

There is the potential for the spread of Montbretia, particularly during the site clearance phase when material will require removal from site, and during the initial ground-works phase, when there will be excavations for footings, services etc. Montbretia rarely produces seed and the usual transmission vector is human activity moving the corms around during excavations etc. The corms are very persistent in the soil and this must be taken into account to avoid the risk of committing an offence.

The timescale of the project is not known but there are two potential approaches to the Biosecurity risk posed by the presence of Montbretia. This could either take the form of pre-works eradication treatment if time allows, or a ‘containment strategy’ to allow the development to commence prior to eradication taking place.

Option 1: Pre-Works Eradication

It is recommended that the Montbretia on the site is treated with an appropriate herbicide prior to demolition commencing which could result in the dispersal of the plant. This treatment must be carried out between March and the end of June when the plant is actively growing but before it starts flowering for the treatment to be effective. A ‘systemic’ herbicide such as Glyphosate must be used to ensure that the roots are killed, not just the foliage. The disadvantage of this approach is that further treatments may be required in subsequent years as on occasions, corms may have become detached from the parent plant which prevents the translocation of the herbicide.

Option 2: Containment Strategy

If the works programme does not allow sufficient time for a pre-works eradication to be carried out, there is the option of containing the problem to prevent corms being dispersed in either demolition material or in soil etc during the ground works phase.

- For this to be effective, the plant must be excavated to a depth of a minimum of 75cm and a minimum of a 75cm radius from the plant to ensure that all corms have been removed.
- This material must then be deposited in an area of the garden where it will be unaffected by the proposed works.
- This area must be clearly defined and an exclusion zone set up and enforced.
- The legal implications of allowing or causing the plant to spread must be covered in any site inductions.
- Once the plant has been contained, a decision can be made regarding whether to initiate an eradication programme as it is not illegal to grow the plant in a garden situation. It is

however recommended that it is eradicated as the plant can easily spread beyond garden boundaries.

9.4 *Protected/Designated Sites*

There will be no negative impact on any protected/designated sites. No mitigation measures are therefore required.

10 **Biodiversity Enhancement**

Under Chapter 6 of Planning Policy Wales 11, planning authorities must seek to maintain and enhance Biodiversity in the exercise of their functions. This policy addresses the Section 6 Duty of the Environment (Wales) Act 2021 and results in the likelihood of planning applications being refused unless they can show a positive impact on biodiversity.

Hedging

Currently the south-east boundary of the site is a wood post and wire fence, whilst the north-west boundary is comprised of a low stone wall. It is therefore recommended that a new hedge of native species is planted along both these boundary lines. The current site plans indicate that the planting of a new hedge along both of those boundary features would be feasible. See Figure 5.

Not only do the native species recommended carry very positive benefits to Biodiversity, but the linking of the hedgerow habitats will also improve habitat connectivity for a whole range of taxa, including bats. Furthermore, the inclusion of a dense hedge line in front of the current stone wall could enhance the potential for features within the wall to be used by reptile species. Hedgerows are a UK priority habitat.

The species below are considered appropriate:

Elder; (*Sambucus nigra*)

Hawthorn; (*Crataegus monogyna*)

Blackthorn; (*Prunus spinosa*)

Dog rose; (*Rosa canina*)

Guelder rose; (*Viburnum opulus*)

Holy; (*Ilex aquifolium*)

Hazel; (*Corylus avellana*)

Establishing the New Planting

All plants must be securely protected from any livestock or rabbits, the presence of which was recorded during the site survey.

Any plant casualties within the first 5 years must be replaced.

To ensure that the new planting does not have to compete with other vigorous plant species, ground preparation must include the eradication of deep-rooted perennial weeds.

It is recommended that small, bare rooted plants are used as these become established more easily.

Bare root planting must take place in autumn/winter when the plants have dropped their leaves.

Watering during dry weather in the first 12 months is recommended as this can significantly reduce the number of casualties.

To maximise the benefit of this new hedge to wildlife, it is recommended that the advice provided by RSPB at the link below is followed. This management regime maximises both flower and fruit production in addition to providing nesting cover and the avoidance of disturbance of birds while nesting,

ww2.rspb.org.uk/Images/Englishhedgerows1_tcm9-133255.pdf

Tree Planting

The site plan indicates that 10 trees will be planted as part of the proposed development.

It is recommended that native species including rowan; (*Sorbus aucuparia*), cherry; (*Prunus avium*) and crab apple; (*Malus sylvestris*) are utilised. The flowers and fruits of all these species provide food sources for a range of invertebrates, mammals and birds. The berries of the cherry and rowan in particular are of significant benefit to a range of both resident and migratory bird species. Due to the relatively small size of these tree species, it will be unlikely that their removal will be necessary in the future.

Bat Roosts

In this case, it is recommended that 'bat tubes' are incorporated into the rear elevations of the properties on the south-west side of the site. Due to the requirement for minimising light spill and exterior illumination, these elevations should be suitable, and they would also face out over the one of the retained hedgerow features. These 'bat tubes' are very discreet as they are an integral part of the fabric of the buildings and are rendered over leaving only the small bat access point visible. The provision of these new roosts has the potential to benefit crevice dwelling bat species, such as pipistrelles, which are known to be present in the area. The location of the bat tubes must be clearly shown on the architect's drawings and no lighting will be installed that impacts on the entrance of these features.



Figure 6: Example of an integral bat tube

Swifts

There are several records of swift breeding behaviour and a nesting site within close proximity to the proposed development. However, these nesting sites were recorded on a church and chapel building and it is considered that the proposed new housing would not be high enough to install swift boxes. Therefore, no biodiversity enhancements in regard to swifts are recommended.

11 Legal Implications

11.1 Bats

Bats are protected under UK law by the Wildlife and Countryside Act 1981 (as amended) and also under European law by the Conservation of Habitats and Species Regulations 2017. Under these laws it is an offence to deliberately kill or injure a bat, to disturb a bat or to damage, destroy or block access to a roost. Bat roosts are protected under these laws whether the animals are present at the time of survey or not. NRW are empowered to issue licences to carry out work to bat roosts for reasons of overriding public interest.

11.2 Nesting Birds

Under the Wildlife and Countryside Act 1981, all nesting birds and their nests are protected. Once a bird places a single piece of material then it constitutes a nest. It is then an offence to cause damage to the bird, nest, eggs or chicks and immediate habitat which is likely to result in damage by causing the bird to desert its nest. This covers all bird species, with the exception of a small number of 'pest species' which can be controlled by special license.

In 2000, the Countryside and Rights of Way Act (CROW Act) was made law, strengthening the legal protection for many species and introducing a 'reckless disturbance' offence. Planning Authorities are also obliged to take nesting birds into account in relation to planning decisions following guidance from the Welsh Government detailed in Technical Advice Note (TAN) 5.

11.3 INNS

Montbretia is included in the list of alien invasive species covered by the Wildlife & Countryside Act 1981. Under this legislation, the introduction of any of the species listed, or allowing them to spread into the wild could constitute an offence. The Environmental Protection Act 1990 and associated regulations define INNS contaminated soil or plant material as controlled waste and make provisions for their treatment and disposal.

12 **References**

Bat Conservation Trust (2018) Bats and artificial lighting in the UK

13 **Appendices**

13.1 Site Photographs



The improved grassland sward, which is heavily cropped and dominated by perennial rye grass.



The hedgerow on the south-west boundary of the site.



The hedgerow on the north-east boundary of the site

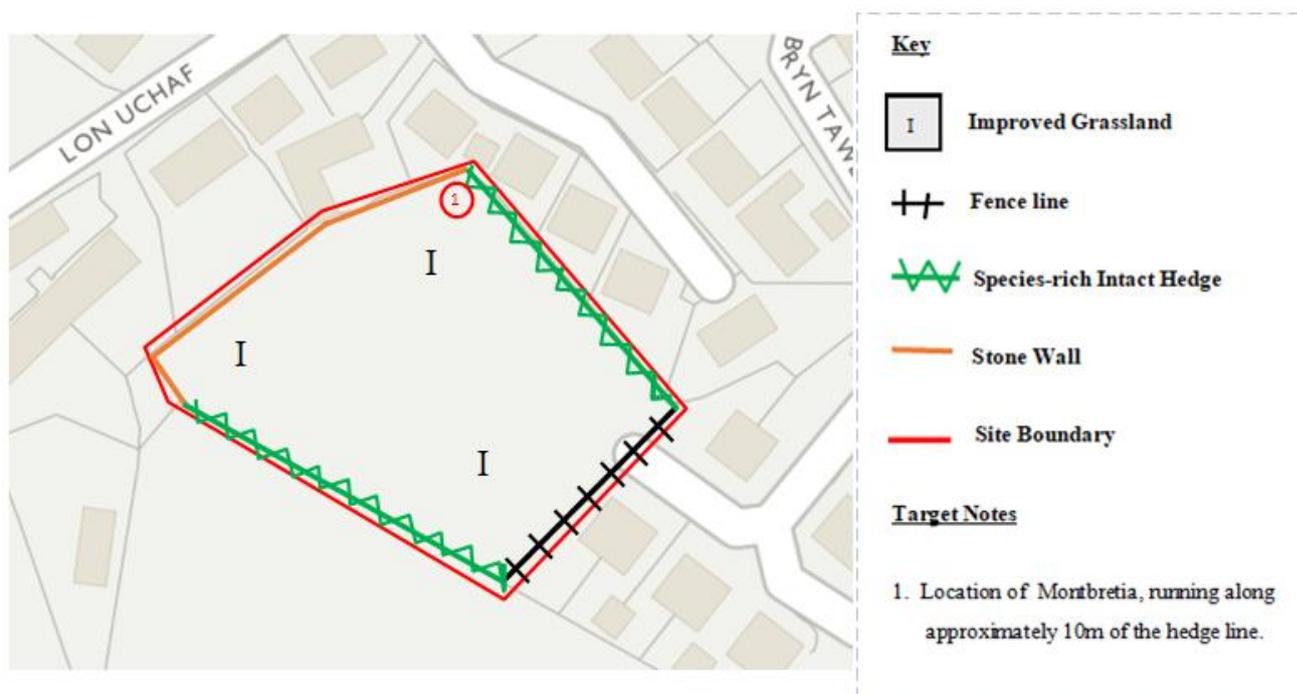


The stone wall on the north boundary of the site.



Montbretia on the north-eastern site boundary

13.2 Phase 1 Habitat Map



13.3 Review Table

Name	Task	Date
Lizzie Richardson	Author	09.11.2021
Chris Hall	Review	12.11.2021
Kate Williamson	Proof Reading	12.11.2021