Cambrian Ecology Ltd
5 Tan y Bwlch
Maentwrog
Gwynedd
LL41 3YU

chris@cambrianecology.com
07765 254035 (Chris Hall)

Preliminary Ecological Assessment
Y Garnedd, Llanfairpwll, Anglesey.
Proposed Erection of Affordable Dwellings.

12th November 2020

Report by: Natalie Parry

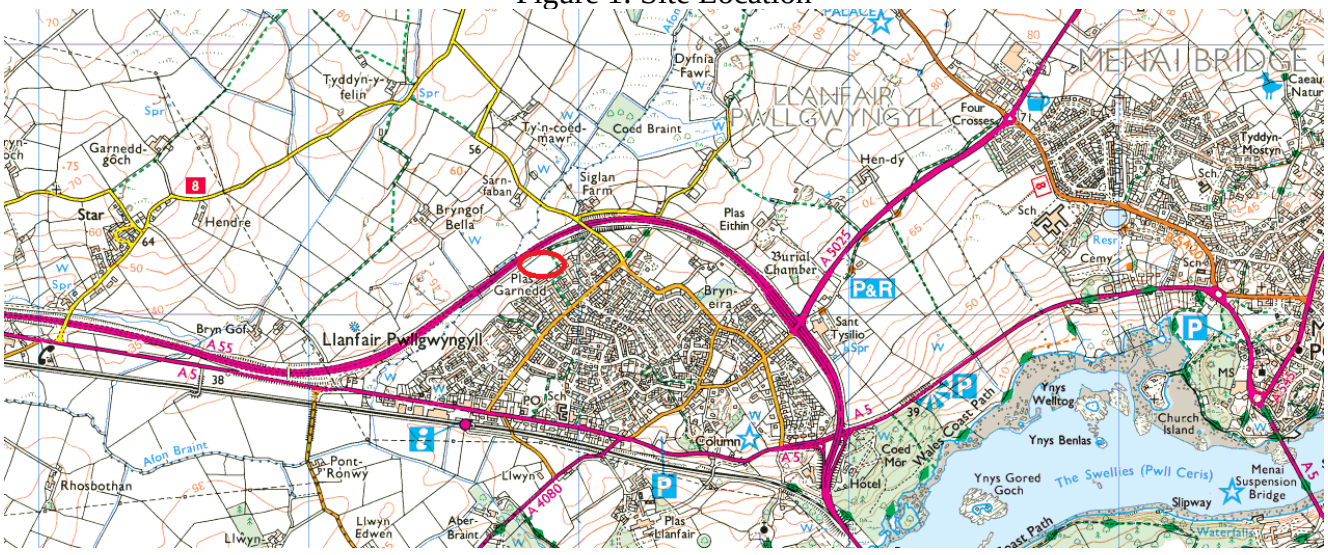
Client: Mark Blackwell, DU Construction, Block F, Parc Penrhos, Holyhead, LL65 2FD

Planning Authority: Isle of Anglesey County Council

Grid Reference: SH 52876 72204

CONTENTS **Page No**

Figure 1: Site Location



Preliminary Ecological Assessment
Y Garnedd, Llanfairpwll, Anglesey.
Proposed Erection of Affordable Dwellings.

12th November 2020

1. Summary

A preliminary ecological assessment, (PEA) was carried out by Cambrian Ecology Ltd on land adjacent to Y Garnedd, Llanfairpwll. It is proposed to construct 27 new affordable dwellings on the site.

The survey revealed that the habitat is dominated by heavily improved grassland but there is the potential for trees and overgrown hedges on the site to be impacted by the proposals.

No protected species were recorded during the survey but there is the potential for nesting birds to be present in the retained hedges at the appropriate time of year. The strip of woodland along the north west boundary of the site provides good connectivity for foraging bats and there is also the potential for hedgehogs; (*Erinaceous europaeus*) and red squirrels; (*Sciurus vulgaris*) to be present in vegetation on the site.

A biological records search was carried out with the Local Records Centre, (LRC) Cofnod as recommended in the guidance from the Chartered Institute of Ecology & Environmental Management, (CIEEM). This enables the proposed development site to be assessed in a wider context and a potential 'zone of influence' of the development to be taken into account.

The data search revealed that there are records of hedgehog, red squirrel and several species of bats within 1km radius of the site.

Under Chapter 6 of Planning Policy Wales 10, planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. In this particular case, the planting of species of benefit to wildlife and the provision of bat tubes as an integral part of the fabric of some of the new buildings have been recommended along with the provision of bird boxes on appropriate elevations.

Key Messages:

1. **There is the potential for bats, hedgehogs, nesting birds and red squirrels to be present on the site**
2. **As much as possible, existing trees and hedges should be retained**
3. **Reasonable Avoidance Measures (RAMs) for hedgehogs, nesting birds and red squirrels will be required during any vegetation clearance which will be restricted to being undertaken between 1st October and 28th February unless a pre-works survey is negative see Section 9.2**

4. **Any exterior lighting will be required to take bat flight paths into account to avoid the illumination of linear features, see Section 9.2**
5. **Site design must take into account freedom of movement for hedgehogs, see Section 9.2**
6. **Biodiversity enhancements are recommended in the form of new accommodation for bats and planting of benefit to wildlife, see Section 10**

2. Introduction

Cambrian Ecology Ltd was commissioned by the client Mark Blackwell to carry out a PEA on land adjacent to Y Garnedd, Llanfairpwll. It is proposed to construct a total of 27 affordable dwellings on the site.

The relevant planning authority is Isle of Anglesey County Council who require ecological surveys to be carried out as an integral part of the planning process.

The proposed new affordable dwellings will be located at Grid Reference SH 52876 72204.

3. Methodologies

3.1 Habitats

The Habitat survey was carried out on 12th November 2020 by ecologist Chris Hall accompanied by ecology assistant Natalie Parry. The survey took the form of an extended Phase I survey and 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, (INNS)

All habitats considered to have 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 protected or important species, including potential bat roosts in the retained trees on the site perimeter. 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 or Section 7 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 the Local Records Centre, (LRC) Cofnod for all priority species, habitats and designated sites as recommended in the guidance from the Chartered Institute of Ecology & Environmental Management, (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 centre.

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.

While this survey was not carried out within the normally accepted limits of a habitat survey with regards to the timing, in this case, where the habitat is heavily grazed, improved grassland, it is not considered that the results of the survey were adversely affected.

5 Results

5.1 Habitat

The habitat on the site is dominated by improved grassland, the corners of the field show signs of nutrient enrichment where animals may have been fed or sheltered. To the north east side of the site is a dry stone wall, some areas of scrub and the remnants of an unmaintained hedge. The north west boundary encompasses a strip of predominantly broadleaved woodland which is outside the planning boundary, and a small area of blackthorn scrub. To the south west of the site is a clawdd and remnants of a hedge with some young/semi mature trees. The south east of the site is bordered by neighbouring gardens.

A Phase 1 Habitat Map is shown if Appendix 2.

Improved Grassland

This habitat dominates the site and is the only habitat that will be lost. The dominant grass species in the sward is perennial rye-grass; (*Lolium perenne*) which has been grazed heavily.

The broadleaved species assemblage is dominated by white clover; (*Trifolium repens*) with creeping buttercup; (*Ranunculus repens*), ragwort (*Jacobaea vulgaris*) and ribwort plantain (*Plantago lanceolata*) present as relatively minor components. Nettle; (*Urtica dioica*) is present in places where nutrient enrichment has occurred from sheltering livestock.

The site appeared recently, heavily grazed by horses although no livestock were present at the time of the survey.

Hedges

There are the remnants of a hedge to the north east of the site which has not been managed for some considerable time. This is now little more than a row of hawthorn; (*Crataegus monogyna*), with holly; (*Ilex aquifolium*), elder; (*Sambucus nigra*) and ivy; (*Hedera helix*) as minor components. To the south west of the site is a second hedge which sits partially within a clawdd, again unmaintained for some time. The dominant species is hawthorn, with young ash; (*Fraxinus excelsior*) and sycamore; (*Acer pseudoplatanus*) also present.

Stone Wall

There is a dry-stone wall on the north eastern boundary of the site which appears devoid of vegetation, although bramble (*Rubus fruticosus*) has grown over it in places and it is partially obscured by the hedge.

Clawdd

The clawdd sits on the south west of the site. Vegetation growing in this area includes bramble, foxglove; (*Digitalis purpurea*), male fern; (*Dryopteris filix-mas*) and wall pennywort; (*Umbilicus rupestris*.

Scrub
There is a small sparse area of blackthorn; (*Prunus spinosa)* in the north eastern corner of the site and areas of bramble along the north east hedge.

Woodland
Just outside the site boundary to the north is a strip of predominantly broadleaved woodland that separates the field from the passing A55. Oak; (*Quercus robur*), hawthorn, elder; (*Sambucus nigra*), ash, field maple; (*Acer campestre*), hazel; *(Corylus avellana*) and dog rose; (*Rosa canina*) are all present. The ground layer is made up of a dense covering of ivy, with male fern as a minor component.

Figure 2: Aerial image of the proposed site and surrounding habitat

5.2 Protected Species

The protected species survey was negative.

There is the potential for nesting birds to be present on the site perimeters at the appropriate time of the year. There is also the potential for bats to be utilising linear features within the site as well as the potential for red squirrels and hedgehogs to be present on site.

5.3 Desk Study

The data search revealed a number of hedgehog records within the search radius as well as records of red squirrel. Several bat species including soprano pipistrelle (*Pipistrellus pygmaeus*) and common pipistrelle (*Pipistrellus pipistrellus)*, brown long-eared (*Plecotus auritus*) and noctule (*Nyctalus noctula*) bat were all recorded within 1km radius of the site.

There are no protected/designated sites covering the proposed development site adjacent to Y Garnedd. Site of Special Scientific Interest, (SSSI) Sgistau Glas Ynys Môn and Wildlife Site Coed Braint/Siglen/Dyfnia both sit within the 1km search radius but will be unaffected by the proposed works.

Figure 3: Location of hedgehog records shown in blue

Figure 4: Location of red squirrel records shown in red

Figure 5: Showing SSSI Sgistau Glas Ynys Môn area in red and Wildlife site Coed Braint/Siglen/Dyfnia in brown

6 Habitat Evaluation & Impact Assessment

6.1 Habitats

Improved Grassland

The improved grassland on the site comprises a very limited range of common and widespread species. No negative impact is therefore anticipated at any level as a result of the loss of any of this habitat.

Hedge

The hedges on the site comprise a limited range of species and have been unmanaged for some considerable time. They are of limited value to Biodiversity from a botanical point of view and the impact of any loss will be limited to a local level.

They are however likely to be important to protected species including nesting birds and hedgehogs and provide valuable connectivity with habitats in the wider landscape for species such as bats and red squirrels. The retention of the hedges on the site will ensure that there is no negative impact on this habitat at any level. It is accepted that the hedges may require management which would be

beneficial as this will increase the density of the growth. The loss of the sycamore in the hedgerow in the south-west corner of the site is not considered likely to have any negative impact at any level.

Stone Wall

There is no vegetation associated with the stone wall and this feature is to be retained. No negative impact on this habitat at any level is anticipated.

Clawdd

There are a limited range of species with limited value to Biodiversity from a botanical point of view and the impact of any loss will be limited to a local level.

Scrub

The scrub may be lost as a result of the proposals. There is however a very limited range of common and widespread species involved which are of no current conservation concern. No negative impact on botanical diversity at any level is anticipated.

There are however protected species issues that will be required to be taken into account with regards to any vegetation removal. These include hedgehogs and nesting birds.

Woodland

The trees on the north eastern boundary of site act as a buffer between the passing A55 and the field. A variety of broad leaved species are found within this area providing foraging opportunities, cover, food source, nesting opportunities and habitat connectivity for protected species including bats, nesting birds, hedgehogs and red squirrels.

The retention of this strip of woodland and careful consideration to exterior lighting on the site will ensure that there is no negative impact on this habitat at any level. This woodland strip is outside the planning application boundary.

7 Species Evaluation & Impact Assessment

Nesting Birds

Nesting birds will potentially be present in the hedges and trees on the site perimeter. Any disturbance during the nesting season resulting in the failure of the brood could have a negative impact at a local level. In this case however, it is recommended hedges and trees are to be retained, and any negative impact is likely to be short term and minimal.

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 if hedges

are to be removed or managed by laying/coppicing. This includes any young hedgerow trees such as the sycamore in the south-west corner of the site which is likely to be removed.

Bats

Some bat species are heavily reliant on linear landscape features such as over-grown hedges and tree lines as both a navigational aid, and as shelter for foraging. There is therefore the potential for habitat fragmentation as a result of the removal of features such as this on a site. In this case, it is recommended the tree lines and hedges are to be retained which will maintain habitat connectivity through the site.

There are potential issues with regards to artificial illumination of bat flight paths which can in effect cause habitat fragmentation by inhibiting the use of these features by some bat species. This will be required to be taken into account in the mitigation strategy.

Hedgehogs

The habitats on the site provide potential foraging areas for hedgehogs and as a result, animals could feasibly be present on site during the vegetation clearance and construction phases. There is the potential for the killing/injury of animals during these phases if simple precautionary measures are not in place. The entrapment of animals in open excavations is the primary risk.

The hedgehog is a priority species across North Wales including Anglesey and as a result of this conservation status, any negative impact must be avoided.

Red Squirrels

The loss of trees has the potential to impact on foraging opportunities for red squirrels. Research in Wales; (Shuttleworth & Halliwell) shows that sycamore flowers are eaten by red squirrels in spring, along with the seeds of elm, which are also produced in the spring at a time when other food resources can be scarce.

Equally important is the maintenance of connectivity of the landscape, especially arboreal linkage. Red squirrels spend around 70% of their time in the canopy and do not like to have to cross open areas.

The dense canopies of the trees on the site, in particular the mature, ivy covered sycamores, have the potential to provide secure drey sites for squirrels which could be lost as a result of tree clearance.

Due to the rarity and conservation status of the red squirrel, the loss of any individuals can have a significant impact at the local and regional levels. Therefore, any negative impact on the species must be avoided and it is recommended that measures are taken to prevent any damage to the area of woodland adjacent to the site, see Section 9.1.

8 Protected Sites Impact Assessment

Due to the distance of all of the protected/designated sites within the 1km radius search area, it is not considered feasible that there could be any negative impact on any of these sites as a result of the proposed development.

9 Mitigation Measures

9.1 Habitats

Hedges,

It is recommended that the existing hedge lines should be retained if possible. Coppicing/laying the hedges could be seen as a beneficial action as this will increase the density of the hedges and provide improved habitat for protected species.

If however it is not possible to retain the hedges and they are to be replaced with 'close board fencing' it is recommended that new hedges are planted along the fence line utilising a range of native species. If the boundaries are to be fitted with close board fencing, accessibility for hedgehogs will be required to be taken into account, see Section 9.2.3.

There is the potential for hedgehogs and nesting birds and red squirrels in the hedges which must be taken into consideration during any vegetation clearance/management.

Improved Grassland

No mitigation measures are required for the loss of any improved grassland habitats

Scrub & Tall Ruderal Vegetation

Due to the very limited range of common and widespread plant species associated with these habitats, no mitigation measures for habitat loss are required.

There is the potential for hedgehogs and nesting birds to be present in these habitats which must be taken into consideration during any vegetation clearance/management.

Stone Wall/Clawdd

There will be no impact on the stone wall or clawdd. No mitigation measures are therefore considered necessary.

Woodland

The strip of broad-leaved woodland outside the north western edge of the site will be unaffected by the plans and will be retained. To prevent damage to the root plates of all retained trees, it is recommended that the advice relating to this is sought from a specialist arborist.

It is essential that these retained trees are preserved and protected during both construction and post construction phases of the proposed development. This protection must extend not just to physically protecting the trees, but also the features of the trees which are of significant benefit to Biodiversity, such as ivy cover and hollows.

9.2 Protected Species

9.2.1 *Bats*

To prevent any habitat fragmentation occurring, a lighting scheme must be produced that clearly demonstrates how the illumination of the retained tree lines and hedges will be avoided.

If any arboricultural works are to be carried out, any affected trees must first be surveyed for the presence and potential presence of bat roosts. If any potential roosts are found to be present, further survey work may be required.

9.2.2 *Nesting Birds*

If any works are required to the hedges, trees and areas of scrub, consideration must be given to the potential presence of nesting birds. Therefore, any works must avoid disturbance during the bird nesting season, recognised as 1st March – 31st August. This will include the laying/coppicing of hedges or the removal of young hedgerow trees. If this is not possible, a thorough survey must be carried out by a suitably experienced ecologist prior to works commencing. If any active nests are found to be present, works must be delayed until such time as the young have fledged.

9.2.3 *Hedgehogs*

Prior to any scrub or tall ruderal vegetation being cleared, particularly if machinery is used in this clearance, the vegetation must first be searched for the presence of hedgehogs. If any animals are found, they must be moved to a place of safety in the locality prior to works commencing.

To prevent hedgehogs, and other animals becoming trapped, any excavations left open overnight must be fitted with escape ramps. Excavations must be checked for the presence of animals prior to work commencing each morning.

To allow hedgehogs to move freely post-development, the new garden boundaries must be permeable to hedgehogs. This involves creating small holes in fencing or walls (13cm x 13cm) at ground level or using permeable fencing. These are easy to include for most fencing contractors and both wooden and concrete hedgehog-friendly boards can be purchased from some suppliers ready-made.

9.2.3 *Red Squirrels*

It is recommended that the hedges and their associated young trees are retained. If this is not possible a thorough search of the habitats will be conducted by an experienced ecologist to look for red squirrel dreys. If any active dreys are found to be present, vegetation removal must be undertaken outside of the period 1st February to 31st October. This will avoid the potential for any inadvertent breach in the legislation pertaining to nesting birds and also will avoid the red squirrel breeding period when there are likely to be young in the nests.

9.3 Protected Sites

It is not considered feasible that the proposed development could have any negative impact on any protected/designated sites, due to their distance from the proposed site. No further mitigation measures are therefore required.

10 Biodiversity Enhancement

Under Chapter 6 of Planning Policy Wales 10, 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 2016 and results in the likelihood of planning applications being refused unless they can show a positive impact on biodiversity.

10.1 *New Planting*

In this case it is recommended that any new planting around the site boundary employs native species that are of benefit to Biodiversity, in particular red squirrels.

The following species are recommended for inclusion in the new planting scheme.
Oak: (*Quercus petraea/robur*)
Sweet chestnut; (*Castanea sativa*)
Hazel; (*Corylus avellana*)
Cherry; (*Prunus avium*)
European walnut; (*Juglans regia*)

It is recommended that these trees are planted prior to any clearance works with improving/maintaining habitat connectivity being the primary aim. Ongoing maintenance works will be required to ensure the successful establishment of these trees. Any failures will be replaced after the first three years.

Ornamental Planting

In some cases, such as landscaping within the gardens of the houses, it may be more appropriate to utilise exotic/ornamental species. Advice on beneficial species can be obtained from the North Wales Wildlife Trust at: https://www.northwaleswildlifetrust.org.uk/take-action/wildlife-gardening

There are however a number of plant species to avoid in any planting scheme for the site, as they can become invasive and/or cause long-term problems. The *Cotoneaster* genus is a prime example. Almost all of this species produce a profusion of flowers in spring which attract an equally profuse quantity of pollinating insects, particularly bees. The plant then produces a large crop of berries, which are eaten by birds and most 'wildlife gardening' sources heartily recommend the planting of *Cotoneasters.* The problem however lies with this attractiveness of the berries to birds. There is no way of controlling the spread of *Cotoneaster* into the wild via seeds deposited in bird's droppings. This spread can be over vast distances.

As a result, five *Cotoneasters* are listed as INNS under the Wildlife & Countryside Act. While it is not illegal to grow these plants in a garden situation, it is recommended that they are avoided due to this lack of control over the spread of the species into the wild. The five to avoid are *C. horizontalis, C. simonsii, C. integrifolius, C. Bullatus & C. microphyllus.*

Provided that these five are avoided, the planting of this species can be very beneficial to biodiversity in a garden situation.

The planting of *Buddleia* is also widely recommended in many sources. Again, care should be taken with regards to cultivar/species selection. While not listed as 'invasive' it is recommended that the planting of *B. davidii* is avoided. There are however some *Buddleias* worthy of consideration. Their common name of 'butterfly bush' is deserved and *B. x weyeriana* is a hybrid that is worth consideration along with *B. fallowiana alba.*

10.2 *Bat Roosts*

It is recommended that new bat accommodation is built into the new properties. There are a number of 'Bat Tubes' available which would be ideal for this purpose as they are built into the fabric of the buildings. These are very discreet as they are rendered over leaving only the small access point exposed. One bat tube should be built into the elevation of each building facing the boundary of the site where it will be unaffected by lighting, and where the surrounding habitat provides connectivity. A minimum of 12 bat tubes should be installed. These bat tubes must be clearly shown on the architect's drawings in suitable locations following consultation with the site ecologist.

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 a small number of exceptions (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 Hedgehogs

The hedgehog is a priority species across North Wales, including Anglesey and is included in Section 7 of the Environment Wales Act (2016) as a species of importance to the maintenance and enhancement of Biodiversity in Wales.

11.4 Red Squirrels

The species is classified as near threatened by the IUCN on the Red List and is listed under Appendix III of the Berne Convention. It is threatened in the UK and protected under Schedules 5 & 6 of the Wildlife & Countryside Act (as amended).

They are also a 'Priority BAP Species' listed under what is now Section 7 of the Environment Wales Act (2016) which places an obligation on all Competent Authorities to consider these species in all of their activities, including planning and development issues.

12 References

Shuttleworth, C. & Halliwell, L. Red Squirrels in my garden. Guidance and tips to encourage local populations. European Squirrel Initiative.

13 Appendices

13.1 Site photographic record

Area of blackthorn scrub

Improved grassland at Y Garnedd

Tree line/broadleaved woodland outside the north western boundary of site

Example of unmaintained hedge and areas of scrub

Example of tall ruderal vegetation in a nutrient enriched area

Vegetation on Clawdd

Tree line along Clawdd showing the young sycamore likely to require removal

Clover in the sward of the improved grassland

12.2 Phase 1 Habitat Map

12.3 Review Table

Name	**Task**	**Date**
Natalie Parry	Author	17.11.2020
Chris Hall	Review	20.11.2020
Kate Williamson	Proof Reading	25.11.2020