

Preliminary Ecological Assessment



Project: 4 Log Cabins within Woodland, Rhydoldog House,
Rhaydaer

Instructed by: Charlotte Church

Reported by: Ecological Services Ltd
10 Mount Pleasant, Llanelly Hill, Abergavenny, Monmouth NP7 0NT
Reported by

Author	Date	Version
Ash Harris	4th October 2021	V2

T: 07305143857

E: ash@ecologicalservices.wales

W: www.ecologicalservices.wales

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1. Introduction

The applicant is seeking permission to create a small glamping development within a parcel of woodland to the south of Rhydolog House, Rhaydaer, Powys. The proposed development site is centred at SN9419767801 and forms a small block of coniferous woodland within a wider woodland block which extends to the north and south west of site. For the purposes of this report and reference to 'development site' is the small block of woodland covered by the proposed site plan.

Four log cabins will be created within the development site at various locations within the block. Two will be situated to the east and sit alongside a grass footpath. Two will sit to the north east of the site close to the footpath which runs past site.

This report will assess the potential of the land within the site boundary to support protected habitats and species and the implications that any future development proposals could have on them.

1.1 Site Description

The proposed development site comprises a parcel of coniferous woodland which sits to the south east of a much larger woodland area. The wider woodland block appears to be a mixture of deciduous and coniferous woodland but the trees within the development site are entirely coniferous. The woodland slopes steeply downwards from west to east and a rock face approximately 15m in height is present to the north east of the site. Two cabins are proposed to be situated on top of the rock face.

The proposed development site sits within a rural landscape being immediately surrounded by open fields, land, woodland and streams. The Afon Elan lies approximately 1.6km to the south east of site.

1.2 Survey Constraints

The site visit was undertaken in June which is within the optimum time to undertake phase 1 habitat surveys. All areas of the site were accessible during the site visit.

1.3 Surveyor Experience

Aislinn Harris is a full member of Chartered Institute of Ecology and Environmental Management (CIEEM). Aislinn is an ecologist with 12 years experience undertaking a wide range of flora and fauna surveys. All survey work is undertaken following JNCC Phase 1 Survey Guidelines and CIEEM Guidelines for Preliminary Ecological Appraisal (2nd Ed 2017).

Aislinn is a licenced bat ecologist (S085699-1) with a wide variety of experience undertaking protected species and habitat surveys.

2. Desktop Study

A data search was undertaken via Aderyn (Reference DERF 1706) for the proposed development site and surrounding area. A 2km buffer zone was searched and records returned within 500m of site are noted below:

- Small Heath - approximately 160m away,
- Polecat - closet record is approximately 320m away,
- Hedgehog - closest record approximately 350m away,
- Hare - closest record approximately 360m away,
- Natterers Bat - closest record approximately 380m away, no details are given with the record to distinguish a roost or commuting use,

Records of note returned for the rest of the buffer zone are detailed below:

- Badger sett
- Red Kite
- Barn Owl
- Numerous lichen records including Withces Whiskers, Lungwort and Lobaria amplissima
- Otter
- Numerous bird records - house sparrow, song thrush, red grouse, cuckoo, Dunnock, Starling and wood warbler

2.1 Protected Sites

A data search for species records was undertaken for the proposed development site and surrounding area. The search also considered statutory and non-statutory protected sites.

Statutory Protected Sites

Elan Valley Woodland Special Area of Conservation (SAC) is located approximately 425m to the north of the site. The SAC is designated as it contains old sessile woodland, European dry heath and tilio-acerion forest of slopes, screes and ravines. The SAC extends northwards

with small block to the south and south west and is also covered the Elenydd-Mallaen Special Protection Area (SPA) designation.

The Elenydd-Mallaen SPA site appears to lie directly adjacent to the proposed development site and follow the public footpath which runs to the north west of the development site. The land covered under the SPA designation includes the remaining woodland areas to the north and west and upland areas in the wider landscape to the north, south and west. The land covered under this designation is also designated as a Site of Special Scientific Interest SSSI.

The Cwm Gwynllyn SSSI is located approximately 1km to the north of site at its closest point. The Coed Y Cefn SSSI is located approximately 1km to the east of site and covers a block of woodland.

The River Wye SAC is located approximately 1.7km to the south east of site. This area is also designated as a SSSI.

Non-Statutory Protected Sites

The Upper Ochr Cefn is a Road Verge Nature Reserve located approximately 900m to the east of site.

There is a B-Line designation within the wider area. B-Lines are non-statutory protected sites which aim to restore and create wildflower habitats forming stepping stones that link existing wildlife areas together creating a network of habitats across the landscape benefiting not only pollinators but a host of other wildlife. The land included within the B-Line lies to the south west.

There are several areas of Ancient Semi Natural Woodland within 2km of the site. These woodlands have been identified as Priority Areas by Natural Resources Wales (NRW) as they comprise mostly broadleaved native trees and shrubs believed to have been in existence for over 400 years. The nearest Ancient Semi Natural Woodland lies approximately 100m away to the south of the site.

There are two areas of Restored Ancient Woodland to the south and north of the proposed development site. The closest such site lies to the north and is approximately 50m away from site.

2.2 Potential Impacts to Protected Sites

Given the proximity of the proposed development site to the Elenydd-Malleen SPA and SSSI consideration to the effects of the development on these protected sites must be given. The

development site is also directly connected to the larger woodland block which leads to the Elan Valley SAC, SSSI and areas of Ancient Semi Natural Woodland and Restored Ancient Woodland. The habitat connectivity via the development site to these wider statutory and non statutory designations must also be considered.

However, the Elenydd-Mallean SPA is designated for upland habitats which support breeding red kite, merlin, Chough, Peregrine, Golden Plover and Raven, amongst other bird species. No birds nests were directly noted during the site visit however nesting within the broader woodland for at least some of these species is considered likely. The access track which runs along the north and western boundary of the site is border of the SPA and SSSI.

The Elan Valley SAC is designated for the presence of Old sessile oak woodland, dry heath and tilio-acerion forest of slopes, screes and ravines (Annex 1 habitats). None of these species of habitats are present within the development site and will therefore not suffer any adverse impacts due to the development.

Potential impacts that could be experienced without mitigation and compensation measures include habitat loss, pollution via drainage and lighting. Section 4 of this report will make broad recommendations and discuss measures which can be taken to reduce these potential impacts.

3. Phase 1 Survey

3.1 Habitats

A walkover survey of the site was completed on the **28th June 2021**. All areas of the site were accessible during the site visit.

A species list can be found in Appendix 1, photographs of the site can be found in Appendix 2 and a map of the habitats found within the site is provided in Appendix 3.

The site is dominated by **plantation woodland** with a single species of Western Red Cedar. The dense canopy of the trees and layer of needles on the floor prevents the growth of any understory within this woodland area.

There is a **green lane** along the eastern edge of the woodland. This lane is approximately 2m wide and kept as mown grassland. The western edge of the lane, between the mown grassland and woodland has a number of plant species present. The vegetation is longer with species recorded including ox eye daisy, red campion, herb Robert, Yorkshire fog, creeping bent, knapweed, common mouse ear and wood false brome. The vegetation in this area is assessed as being **semi improved grassland**.

3.2 Great Crested Newts

Great crested newts (*Triturus cristatus*) are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Deliberate taking or destroying of eggs,
- Damage or destruction of a breeding site or resting place.

Great crested newts (GCN) are listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a great crested newt. Great crested newt and common toad are listed in section 7 of the Environment (Wales) Act 2016 which makes them key species to sustain and improve biodiversity.

There are no records of Great Crested Newt (GCN) within 2km of the site.

No ponds are present within the proposed development site and there do not appear to be any ponds present within 500m of the development site boundary when reviewing aerial images. Given the minimal ground flora within the proposed development site and lack of local records for this species it is thought unlikely that they are present in the area. No further recommendations are made for GCN.

3.3 Dormouse

The dormouse (*Muscardinus avellanarius*) is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Dormouse is listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a native dormouse. Dormouse is listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

There are no records for dormouse within 2km of the site.

The majority of the land within the site boundary is coniferous woodland with negligible understory. A small number of trees will require removal to allow the creation of the glamping units, Appendix 4 of the Arboricultural report by ArbTS details which trees will be lost. The woodland to be directly impacted by the proposals and in the immediate vicinity currently has no understory. The lack of undergrowth is illustrated by the photos in Appendix 2 of this report.

A lack of local dormouse records does give some comfort that the species are unlikely to be in the area, however their potential presence cannot be ruled out entirely due to a lack of records. Dormouse will use coniferous woodland but given the lack of understory within the proposed development site and wider woodland. There is a lack of food and suitable shelter locations within the woodland as far as the eye can see. Therefore it is considered highly unlikely that dormouse are present within the development site and immediate area of woodland.

No further survey work for dormouse is recommended.

3.4 Bats

All British bats are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Schedule 5 of The Wildlife and Countryside Act (1981) also protects all species of British bat and their roosting locations. British bats are protected from intentional or reckless disturbance and or obstruction of their roosting places. Barbastelle, bechstein, noctule, brown long eared, common pipistrelle, soprano pipistrelle, greater horseshoe and lesser horseshoe bats are also listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

There are no buildings within the site boundary. A rock face is present to the south east of cabins 3 and 4 that measures approximately 15m in height. The rock face was closely inspected in person and via the use of binoculars for any gaps and cracks suitable for use by protected species. There did not appear to be any deep fissures or cracks within the rock face which bats could use for roosting purposes. Cracks were observed but they did not appear to extend deeply into the rock. The rock face will also not be affected by the proposed development works.

Tree Assessment

Trees within the site boundary were subject to ground level assessment for the likely potential presence for bats during the phase 1 survey. Any trees felt to have potential for roosting bats would be subject to a further detailed survey following current BCT Guidelines (2016).

No trees suitable for bat roosting use were noted during the site inspection. The trees had no gaps or cracks suitable for bat roosting use within the trunks and limbs which were visible. Being coniferous trees they had a limited canopy which allowed a good visual inspection around each tree. Given the limited understorey as well it was possible to access all around each tree.

Transect Survey

It is considered likely the site is used by bats for foraging and commuting purposes as it has good connectivity to the nearby woodland and the wider landscape. The development site also sits within a larger woodland block that provides habitat connectivity to the Elan Valley

SAC, Elenydd-Mallean SPA and SSSI. The site sits adjacent to Ancient Semi Natural Woodland and Restored Ancient Woodland as well.

When considering the need for bat transect survey work the potential impacts of the scheme on bat species using the area needs to be considered. There will be no external lighting erected as part of the proposed development. There will be internal lighting erected within each cabin. In order to reduce the impacts of light spill via glazing within each unit mitigation measures will be required to ensure the light levels around the units do not exceed 0.2 lux on a horizontal plane and 0.4lux on a vertical plane.

Recommendations will be made in regard to external lighting used within the proposed development site. Providing the cabins can be designed in a manner that reduces lighting impacts on the woodland area, transect surveys to establish bat use within the development site are not suggested in this instance. Instead their presence within the boundary will be assumed.

3.5 Otters

The common otter (*Lutra lutra*) is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Otter are listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale an otter. Otter is listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

The closest record for otter is approximately 1km away from site and associated with the River Elan.

Otters tend to prefer secluded locations for their holts to help prevent them being disturbed by other animals. It is accepted that otters can travel long distances from river corridors to find acceptable holt sites. The Nant Caethon flows approximately 100m to the south of the site and feeds into the River Elan approximately 1.5km to the south east.

No suitable gaps or holes were noted within the woodland which could be used by otter for a resting site or holt. No understory is present within the woodland which would provide

cover suitable for use by otter. The site slopes steeply down from west to east. A rock face is present to the south east of cabins 3 and 4 that measures approximately 15m in height. The rock face was closely inspected in person and via the use of binoculars for any gaps and cracks suitable for use by protected species. No gaps or caves are present within the rock face which an otter could use.

As such it is considered unlikely otter are present within the site. No further recommendations will be made for this species.

3.6 Badger

Badgers are protected under the Protection of Badgers Act 1992. In summary they are protected from:

- Taking, killing or injuring;
- Cruelty;
- Interfering with a badger sett;
- The selling and possession of badgers;
- Marking or ringing.

Badgers are also listed on schedule 6 of the Wildlife and Countryside Act 1981 as amended.

Badgers tend to have a variety of setts with different uses and functions within the territory for the family unit. In general there is usually a main sett which the family will use the most. There are then annex, subsidiary and or outlier setts which depending on family structures and environmental pressures may be used at different times of the year. As female badgers tend to have their cubs over winter the disturbance and damage of badger setts is prohibited between December and June inclusive. NRW are the licensing body for any actions which may contravene the above legislation.

The closest badger record to site is approximately 760m away but the record is given to a four figure grid reference and no details are provided. The next closest recent record is approximately 930m away is for a dead badger found in a woodland. All other records are over 1km away.

Badgers favour a dry sloping site for digging their setts preferably within woodland or even under a large hedgerow bank. Badgers are creatures of habit and tend to follow regular pathways between their setts and foraging grounds, no such evidence was found within the site. No evidence of the presence of badger, such as sett, latrine or digging, was noted within the proposed development site. All woodland within 30m of the proposed cabin locations was searched for evidence of the presence of badger and non was found.

It is considered likely that badger are in the wider area and possibly use the proposed development site for commuting and occasional foraging purposes. No further survey work is recommended for this species.

3.7 Birds

All breeding birds are protected under schedule 1 of the Wildlife and Countryside Act (1981) as amended. Under this Act it is an offence to:

- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird.

Enhanced protection is afforded to species listed on Schedule 1 of the Act, this additional protection makes it an offence to:

- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Species recorded during the site visit include house sparrow and blackbird.

Nesting opportunities occur in the trees within the site. Precautionary measures for nesting birds are detailed in the recommendation section of this report.

3.8 Reptiles and Amphibians

Reptile such as the slow worm, common lizard, adder and grass snake are protected under the Wildlife and Countryside Act 1981(as amended). They are protected from killing, injuring and sale. They are also listed in section 42 of the Natural Environment and Rural Communities Act (NERC) 2006.

The four widespread species of amphibian i.e. the smooth and palmate newts, common frog and common toad, are protected under the Wildlife and Countryside Act 1981(as amended) by Section 9(5) of the Wildlife and Countryside Act 1981. This section prohibits sale of these species. Our common native amphibians are only protected from sale.

There are no records for any reptile species within 2km of the proposed development site. The closest recent record for amphibian species is approximately 1.6km away from site and is for common toad. The lack of local records for reptiles and amphibians is thought to indicate a lack of recording in the local area rather than the absence of such species.

Reptiles prefer a mosaic of habitats with diverse vegetation structure creating open areas and nearby cover to provide protection from predators and the elements. The woodland

does not provide any suitable foraging, basking or commuting habitat for reptiles due to the shade created by the trees and lack of understory. The woodland could possibly be used by reptiles for hibernation purposes during the winter. The bank along the green lane along the eastern edge of the site could have some limited use during the summer months by reptiles. Whilst the longer vegetation along the bank and shorter vegetation of the lane create a mosaic of different habitats the area is still fairly shaded by the trees along the lane.

It is recommended that the presence of a small number of common reptile species is assumed along the green lane to the east of site during the summer months and that the woodland is used for hibernation purposes during the winter months. Reptile surveys are not recommended in this instance due to the low potential for use of the area by reptiles and appropriate mitigation and compensation measures can be incorporated into the development proposals. Instead a series of species deterrence measures will be adequate in respect of reptiles as part of any future development works. The provision of enhancement measures suitable for reptiles within any future development designs will also be required.

4. Recommendations and Mitigation

It is proposed to create four glamping cabins within the development site at Rhydolog House. As the development design evolved the proposal now include a bath house to the north of the cabins. Whilst the location of the bath house was not specifically targeted during the survey visit in June, the woodland block was assessed as a whole during the site visit.

The cabins and bath house will sit within a coniferous woodland plantation and will be designed to have minimal impact on the woodland to offer residents a peaceful and tranquil woodland break. The development proposals will see the loss of 17 western red cedar trees. There will be some temporary disturbance of the semi improved grassland along the eastern edge of the woodland during the construction. The vegetation will be allowed to regrow once the cabins have been completed. The design aim of the development is to integrate the cabins within the woodland and have minimal impact on the habitats within the site boundary.

The main areas of potential ecological impact are to the Elenydd-Mallaen SPA and SSSI, both statutory designated sites which the development sits adjacent to. The site also has direct habitat connectivity to the Elan Valley SAC, SSSI and areas of Ancient Semi Natural Woodland and Restored Ancient Woodland. The proposals have the potential to impact on commuting and foraging bats, nesting birds and reptiles which may use the site in small numbers.

Broad recommendations are made below to help inform the design process. **Once the development proposals are progressed and the considerations to development within the site are addressed, further ecological input may be required.** Our general recommendations are:

Habitat Recommendations

- A root protection zone (RPZ) must be implemented around any retained trees within the proposed development. British Standard BS 5837, *Trees in relation to design, demolition and construction - Recommendations* will be followed. Measures will include clear marking of the RPZ to guarantee no machinery is used or digging carried out in that area. This will ensure that there is no detrimental impact to the trees and the flora or fauna it supports.

Species Recommendations

- The trees within the site boundary have potential for use by nesting birds. Any vegetation removal must be completed outside of the bird nesting season of March to August inclusive. If this is not achievable an ecologist must inspect any trees or ground vegetation with the potential for birds to be present for active birds' nests prior to removal works beginning. If an active nest is identified a minimum buffer zone of 5m around the nest must be observed until the chicks have fledged. Only then can the vegetation be removed. Greater buffer zones around nests may be required depending on the species and habitat the nest is within.
- The site is considered suitable for a small number of common reptile species to be present throughout the year. A reptile mitigation strategy, which is agreed with the LPA ecologist, will be required to support the proposed development. Measures suitable for reptiles should be included within the design to allow movement across the site post development. A reptile mitigation strategy should include, but not be limited to:
 - Habitat clearance measures such as sensitive timings of works and a two stage vegetation cut and destructive searching of roots if required.
 - Timings of works to avoid reptile hibernation period, November to March inclusive.
- Careful consideration must be given to the use of lighting within the developed site, as this can adversely affect activity by a variety of fauna, particularly foraging bats, nesting birds and invertebrates. Light spillage into adjacent semi-natural habitats including the remaining woodland must be avoided and brightness kept to the lowest permissible level in the areas adjacent to such habitats.
- All lighting must meet recommendations in the BCT Guidance Note 08/18 Bats and artificial lighting in the UK document <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>
- The internal light fixtures within each cabin must be set back from any glazing to help reduce light spill from the fixture out of the window.
- All glazing within each cabin will be fitted with blackout curtains and blinds to help reduce light spill via glazing. The curtains and blinds will be drawn at night to give privacy to residents and help prevent light spill into surrounding habitats.

The Environment Act (Wales) 2016 places a duty on competent authorities such as Powys County Council to conserve and enhance biodiversity. One of the main biodiversity enhancements that could be achieved as part of the development is the enhancement of

the conifer plantation woodland within the wider landscape. A woodland Management Plan has been designed by Wye Valley Forestry. The 10 year management plan aims to gradually thin out the plantation woodland allowing natural and more diverse woodland regrowth. Section 8 of the management plan details annual monitoring to inspect biodiversity improvements and ensure invasive species do not establish. The management plan will be reviewed every 5 years.

The proposed thinning works to the woodland will result in a long term enhancement in the quality of the woodland within the local area and development boundary. In order to avoid conflicts with further tree removal, limited compensation / enhancement measures are proposed for inclusion within the main woodland areas. The wider land around Rhydoldog House is within the applicants ownership. It is proposed to provide a suite of biodiversity enhancements within the wider site boundary to improve habitat and species diversity within the area. A separate Preliminary Ecological Assessment (PEA) of the land within the wider site boundary will be undertaken. The results of the PEA will be used to fully inform the wider development proposals and enhancement measures. However the Concept Plan drawing CP/CC/21 Rev 0 by Juliet Sargent Gardens & Landscapes shows the broad proposals. This includes pond creation, hedgerow creation and orchard planting.

The below bullet points are some simple measures that could be achieved to enhance the biodiversity of the land within the development site boundary:

- The provision of 15 tree mounted bat boxes within the woodland will provide additional roosting locations for use by local species. 3 boxes will be fitted to 5 trees. The bat boxes will be fitted around the circumference of each tree at least 3m from ground level. Suggested trees are T60, T62, G1 and G7, T64, T89, T136 and T137. All these trees are on the periphery of the cabin locations and are likely to be retained for at least 10 years or so.
- Bat boxes to be used are:
 - 6 x Eco Kent Bat boxes,
 - 6 x Large Multi Chamber Woodstone Bat Boxes
 - 3 x Low Profile Woodstone Bat Boxes
- The provision of 1 x Wooden Apex bird boxes with a 32mm access hole one each structure included within the development proposals. The elevations of the building have been marked up with the agreed location of the bird boxes. External boxes will be used due to the design and structure of walls of cabins.

Appendix 1 – Plant Species Recorded

Species	Common Name
Trees & Scrub	
<i>Quercus robur</i>	Common oak
<i>Thuja pilcata</i>	Western Red Cedar
Herbaceous Plants	
<i>Arrhenatherum elatius</i>	false oat-grass
<i>Cerastium fontanum</i>	common mouse-ear
<i>Dactylis glomerata</i>	cock's-foot
<i>Epilobium hirsutum</i>	great willowherb
<i>Holcus lanatus</i>	yorkshire fog
<i>Hypochaeris radicata</i>	common cat's-ear
<i>Plantago lanceolata</i>	ribwort plantain
<i>Ranunculus repens</i>	creeping buttercup
<i>Leucanthemum vulgare</i>	Ox eye daisy
<i>Senecio jacobaea</i>	common ragwort
<i>Centaurea nigra</i>	Knapweed
<i>Trifolium repens</i>	white clover
<i>Geranium robertianum</i>	Herb Robert
<i>Silene dioica</i>	Red Champion
<i>Brachypodium sylvaticum</i>	Wood False Brome

Appendix 2 – Site Photographs



Access track along north / west boundary



Location of cabins to west of site



View of site looking southwards



Rock face to west of site



Rock face to west of site



View of site looking westwards



Cabin locations to the east of site



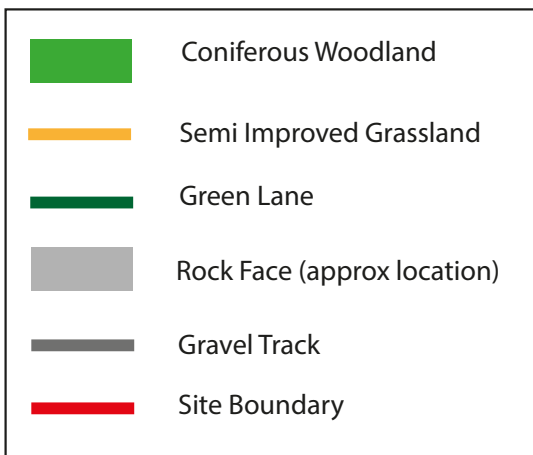
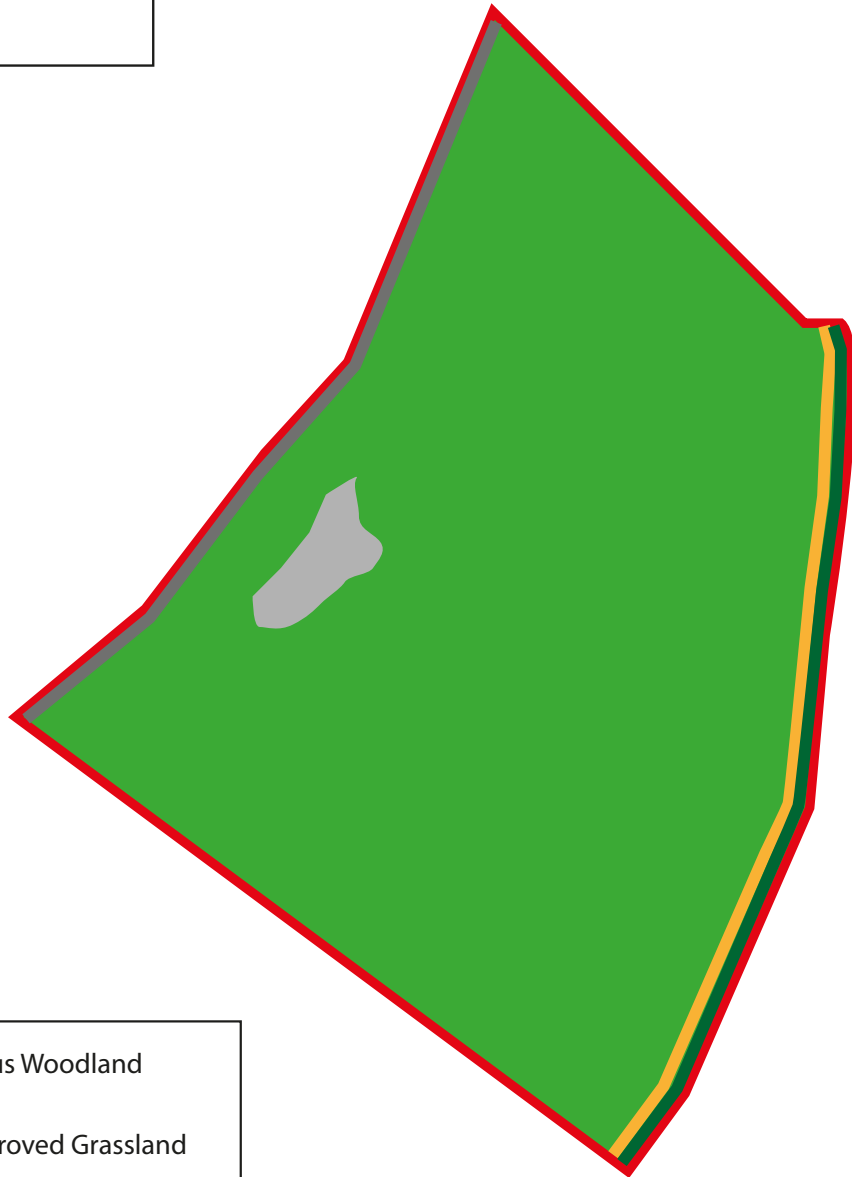
View of trees along eastern edge of woodland



View of green lane along eastern edge of site

Appendix 3– Site Habitat Map

RHYDOLDOG HOUSE, RHAYDAER
Habitat Map
June 2021



Appendix 4 - Aerial View of Site Location

