

Land at Darnau Farm

Glascoed Wrexham

Preliminary Ecological Assessment

16th April 2021



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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

Report Version	Date	Completed by:	Checked by:	Approved by:
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The information we have prepared is true and we confirm that the opinions expressed are our true and professional bona fide opinions.

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1.0 INTRODUCTION

- 1.1 The report has been prepared on behalf Mr Philip Billington and provides the results of a Preliminary Ecological Assessment of an area of garden and section of a field conducted on 26th March 2021. The development Site is at Darnau Farm, Glascoed, Wrexham.
- 1.2 The proposed development site is in a rural setting 7km North West of Wrexham city centre. It is surrounded by pastoral land and horse grazing land and woodland with hedgerows and small roads.
- 1.3 Development proposals for the site are to build a barn to the west of Darnau farmhouse and to build a menage in the field adjacent to the farm with an area of hardstanding as an access point. The proposed location of the menage and access point falls within the boundary of Nant y Ffrith Local Wildlife Site (LWS). The location of the barn does not fall within the LWS boundary. Horses currently graze within the Site.
- 1.4 The aim of the survey was to provide sufficient ecological information for the local planning authority (LPA) to determine the associated planning application. The objectives of the study were to:
- Provide baseline information on the current habitats and ecological features both on-site and in the immediate surrounding area;
 - Identify the presence or potential presence of any protected species or habitats and provide an appraisal of any potential effects that the proposed development may have on these;
 - Provide recommendations for further pre-construction survey work and / or mitigation measures if required and present opportunities for habitat enhancement.
- 1.5 The proposed development is hereby referred to as the Site and is defined by a red line boundary shown on Figure 1. This line is somewhat arbitrary and covers the development site and outlying ecological features covered by this Report. It does not match the development site boundary in terms of the planning application. However, it was considered necessary to look at surrounding habitat to provide context and understanding of how nearby habitats may be influenced by the development.

2.0 SURVEY METHODOLOGY

2.1 To inform this Ecological Appraisal, a desk-top study, an extended Phase 1 Habitat survey, Habitat Suitability Index surveys for GCN of ponds within 500m of the site was undertaken.

Desk Top Study

2.2 A desktop study was undertaken by Wildbanks Conservation during the ecological assessment. Protected species records within a 1km radius of the site were obtained from COFNOD, North Wales Local Biological Records centre. The following other online resources were also used for background information of the Site.

- Ordnance Survey maps
- Aerial photographs

Extended Phase 1 habitat survey

2.3.1 The purpose of the Extended Phase 1 Habitat Survey was to determine:

- the habitats present;
- any potential constraints to development;
- the potential for legally protected species to be present;
- the presence of invasive plant and animals; and
- any requirement for additional ecological surveys.

2.3.2 The survey was carried out by Mick Smith BSc MCIEEM, Director of Wildbanks Conservation and Jack Halpin BSc AIEEM, of Wildbanks Conservation on 26th March 2021. Mick is a suitably qualified ecologist with 10+ years' experience and holds Natural Resources Wales protected species licences for bats and great crested newts *Triturus cristatus* (GCN).

2.3.3 The survey was carried out in accordance with the extended Phase 1 Habitat survey methodology as described in Guidelines for Ecological Assessment (Institute of Environmental Assessment, 1995). This is a development of the original methodology outlined in the Handbook for Phase 1 habitat survey – A technique for environmental audit (JNCC, 2010). Photographs are included within the document (Appendix 1). Plant names follow the third edition of the New Flora of

the British Isles (Stace, 2010). The common name of the plant is stated first and is followed by the Latin name, on the first occasion that it is used. Only the common name is used subsequently.

- 2.3.4 The Site and immediately adjacent areas (up to 50m) were searched for evidence of protected species such as bats, great crested newts, badgers *Meles meles*, birds, reptiles, otters *Lutra lutra*, water vole *Arvicola amphibious* and also any invasive plants or animals.

2.4 Habitat Suitability Index

- 2.4.1 The relevant 1:25000 scale OS sheet and aerial photographs were searched to identify any water bodies present within the Site and within 500m of the Site boundary.

- 2.4.2 The development site comprises grassland bound by hedgerows, both of value to GCN for commuting, foraging and sheltering. Beyond the development site the landscape comprises of a mosaic of good to excellent foraging and refuge habitat in the form of pasture bound by numerous hedgerows and areas of ruderal vegetation.

- 2.4.3 All identified ponds were assessed utilising the modified Great Crested Newt Habitat Suitability Index (Oldham *et al*, 2000). The habitat suitability index provides a means of evaluating habitat quality of any given pond for amphibians. The Habitat Suitability Index (HSI) is a numerical index between 0 and 1, where 0 indicates unsuitable habitat and 1 represents optimal habitat. The HSI score is then used to score the suitability of the pond on a categorical scale (Table 1). The system is not precise enough to allow the conclusion that a pond with a high score will support GCN whilst those with a low score will not. See Table 4 (Section 4 below) for the HSI calculations for each pond.

Table 1: Habitat Suitability Index Scoring

HSI Score	Pond Suitability
< 0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

2.5 Survey Limitations

- 2.5.1 March is sub optimal for conducting floral surveys, however dead stems and basal leaves of a number of species were evident to provide a reasonable picture as to the diversity of the grassland. Therefore, there were no significant limitations to the survey.

3.0 RESULTS

Desk Study

- 3.1.1 A data request was submitted to COFNOD during the desktop study.
- 3.1.2 No statutory designated sites are located within 2km of the Site
- 3.1.3 Two non statutory designated sites are within 1km of the development Site. Nant y Ffrith Local Wildlife Site and Glascoed Wood, see Figure 1 and 2.
- 3.1.3.1 Nant y Ffrith LWS is split in two, likely due to their designations being at different times, both with the same name and are considered as one Local Wildlife Site for the purpose of this appraisal. Their combined size is some 136.4ha and consists of large areas of coniferous plantation (LWS 25SE01 Nant y Ffrith -89.4ha) with additional large areas of broadleaved woodland (LWS W201 Nant y Ffrith -47ha) on a steep sided valley of the Nant y Ffrith river to the north of the Site. Woodland constitutes approximately 97% of the area of the LWS. Nant y Ffrith LWS citation includes. .
- ‘Darnau field is a species rich acid grassland which is grazed by cattle. It is marshy with frequent rushes and sedges and some Sphagnum species. Common bent and sweet vernal grass are dominant and common spotted orchid and lousewort occur. There is a drain across this field with hawthorn and willow bushes. The surrounding gappy hedge includes crab apple.’*
- Full citation is included in Appendix 2
- 3.1.3.2 It is believed this refers to the two fields owned by the client to the south of the woodland and on the opposite side of the valley and where the menage is to be sited within a small section in the northern corner. Shown on Figure 1 as shaded brown area.
- 3.1.3.3 Glascoed Wood is a 38.2ha ancient broadleaved woodland, the bulk of which is to the East of the Site. A narrow wooded valley extends to the South of the Site and at its closest point is some 171m distant.
- 3.1.4 A data request from Cofnod revealed a number of records over a number of years of bats roosting within caves within Nant y Ffrith Woodland supplied by Clwyd bat group. The closest being a Lesser Horseshoe bat (*Rhinolophus hipposideros*) hibernation roost some 854m to North West within a cave recorded between 1987 and 2020.

Ten records of badger (*Meles meles*) setts are provided surrounding the Site and located within Nant y Ffrith LWS, the closest being some 415m North of Site. Records of reptiles are also provided within the wider area including a dead adder (*Vipera berus*) some 806m South East recorded in 2009 and a common lizard (*Zootoca vivipara*) seen in 2009 some 860m West of the Site. No records of GCN are provided within 1km of the Site.

Extended Phase 1 Habitat Survey

- 3.2.1 The location of the barn is within the garden of the farmhouse, habitat is dominated by amenity grassland with some herbaceous plants located around the periphery. A walnut tree (*Juglans regia*) is located within the garden its canopy spread does not cover any areas of the barn footprint.
- 3.2.2 Opposite Darnau Farm are two fields, a smaller one to the northeast (Field 1) and larger one to the southwest (Field 2). The menage is to be sited within the northern corner of Field 1. This northern section of Field 1 is species poor semi-improved grassland with locally enriched areas and very heavily grazed by horses and is extensively poached (plates 2-5). Species present include creeping buttercup *Ranunculus repens*, rib wort plantain *Plantago lanceolata*, dock, sheep sorrel *Rumex acetosella*, common rush *Juncus effusus*, Creeping buttercup *Ranunculus repens* and grasses. The remainder of the field includes the same species and also soft rush, nettle, spear thistle and black knapweed, also with locally enriched areas and can also be classed as poor semi improved grassland (plate 6).
- 3.2.3 Field 2 is an acidic semi improved grassland with a good assemblage of species (plate 9-10). Horse grazing has been significantly lower in this area and it has become a wild grassland. Species include black knapweed *Centaurea nigra*, soft rush, creeping buttercup, rib wort plantain, wavy hair grass *Deschampsia flexuosa*, field wood rush *Luzula campestris*, sheep sorrel, bramble, marsh thistle *Cirsium palustre* and a number of grass species.
- 3.2.4 Between the two fields a ditch runs to a pond on the southern boundary, the ditch is lined with silver birch, hawthorn, goat willow, grey willow and bramble and soft rush (plate 7). The pond is heavily shaded by willow trees and has significant amounts of grass within it. No other marginal species were evident. There is small areas of open water and little depth to it.

Great Crested Newts

- 3.2.5 One pond was identified within the Site (plate 8), no further ponds are located within 500m of the Site. The pond was assessed using the Habitat Suitability Index scoring system. The pond scored poor (4.88). This means that the habitat within the ponds is sub-optimal for GCN and they are less likely to be present than if the ponds were scored higher in the HSI.
- 3.2.6 The Site provides good foraging and hibernation habitat with excellent links to foraging, resting and hibernation habitat in the wider area. The pond is likely to be ephemeral in some years and is not substantial and would likely be unsuitable for breeding. It is also overshadowed by overhanging trees which are also absorbing the water that collects in the pond, resulting in very shallow water depth and very little aquatic vegetation other than grasses.
- 3.2.7 Given this, and the absence of other ponds within 500m, GCN presence/absence surveys are not required. It is considered that GCN are highly unlikely to occur on this Site and this species is not considered further in this report.

Reptiles

- 3.3 Habitat within the development areas is not suitable for reptiles. The area for the barn is lawn and the area where the menage is to be sited is heavily grazed and poached. Other areas within the site do provide suitable features that could be used by reptiles, namely areas of logs and branches in field 2 (plate 11) that would provide refugia and the hedgerows that border the site. These will not be impacted during the development.

Nesting birds

- 3.4 Opportunities for nesting birds exist within trees and hedgerows on the northern and eastern boundaries of the menage. During the development of the Site, a precautionary approach should be taken with regards to nesting birds

Badger

- 3.5 No badger setts were identified within the site, no evidence of badgers traversing the site was identified.

Invasive Weeds

- 3.6 No invasive species were identified within Site.

4.0 DISCUSSION

- 4.1.1 The development area and surrounding land has been subject to an ecological assessment conducted on 26th March 2021 consisting of a walkover habitat assessment by Mick Smith MCIEEM and Jack Halpin (ACIEEM) of Wildbanks Conservation.
- 4.1.2 No evidence of protected species or features or habitats that could be used by such species has been identified that would be destroyed, disturbed or effected by the development. The barn is located within the grounds of the farmhouse and as such habitat lost will be that of amenity grassland.
- 4.1.3 The habitat of the menage and access track is of poor biodiversity value, the species present are limited and of common species and currently it is heavily grazed with significant poaching from horses. However, it falls within one of two fields (Field 1 and Field 2) that are included within the Nant y Ffrith Local Wildlife Site (Fig 1 and 2). An LWS primarily due to it being a large area of woodland on the opposite side of the Nant y Ffrith valley to the development area. The fields, that the menage and access track would be constructed within are specifically identified within the LWS citation, as mentioned previously. Extract from citation referring to the fields is below.

‘Darnau field is a species rich acid grassland which is grazed by cattle. It is marshy with frequent rushes and sedges and some Sphagnum species. Common bent and sweet vernal grass are dominant and common spotted orchid and lousewort occur.’

- 4.1.4 The habitat currently present within the location of the development in Field 1 does not match this description, nor does the remainder of Field 1. It is not a species rich acid grassland. Field 1 has been improved over the years and is now a poor semi improved grassland with localised areas of significant enrichment, as can be seen from plates 2-5 and the species identified within it. Field 1 is currently grazed by the clients horses and grazing will continue going forward and into Field 2.

Field 2 has species present that are more indicative of the description within the citation and is of significantly higher biodiversity value than Field 1. No development is proposed within Field 2.

It is acknowledged that part of the development is within Nant y Ffrith Local Wildlife Site. It is also acknowledged that planning policy EC6 *‘Development either*

within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site' is relevant and needs addressing.

Nant y Ffrith LWS is over 97% woodland, the intrinsic nature conservation value of the LWS lies within the woodland. However, the fact that Darnau Fields are named within the citation of the LWS, albeit constituting a very small proportion of the overall LWS size is relevant. The development area within the LWS is heavily grazed semi improved grassland with low biodiversity value, the loss of this habitat will not effect the overall intrinsic nature conservation value of the designated site in any way. There is no need to safeguard the intrinsic nature conservation of the development Site, as there is no value. Therefore, there is no justification to refuse this planning permission for that reason.

Furthermore, the proposed development provides opportunities to safeguard areas of the fields by ensuring long term ecological management of them that would otherwise not happen, therefore safeguarding their value. Currently Field 1 does not meet the citation description of 'Darnau Field' and there is no safeguarding of this in the long term. The conservation value of the Fields is also likely to be reduced over time as grazing increases or agricultural practices change. Which could potentially harm the value of the designated site all be it only the acid grassland that is referred in the citation.

As such and in order to safeguard the nature conservation value of the fields it is proposed that a number of ecological enhancement measures are carried out to improve the two fields. In addition an Ecological Enhancement Area twice the size of the development area where horse grazing is excluded and the grassland is managed correctly. Section 5 details such recommendations.

5.0 Recommendations

- 5.1 The Site offers little potential for protected or notable species, therefore the development can proceed without further ecological survey work. However, it may be possible that badger transiently pass through the Site but this opportunity will remain upon completion of the development. During construction, any excavations will be covered overnight or fitted with a means of escape to prevent entrapment of badgers that could fall in. No effects in this respect are anticipated.
- 5.2 In accordance with the National Planning Policy Framework (NPPF, Para 170(d) and Para 175(d)), to increase biodiversity at the proposed development site, it is recommended a mitigation/compensation scheme should be devised and included within a five year Management Plan to be agreed by the Local Authority. Figure 3 shows the proposed ecological enhancement measures.
- 5.3 The building of the barn will not provide any detrimental effects to biodiversity within the Site. However, a number of recommendations are suggested to increase the biodiversity value of it upon completion.
- Three swallow nest cups will be installed within the barn
 - Due to the barn proximity to the walnut tree within the garden a Tree Protection Area will be created around it. Fencing will be installed to the same spread of the canopy prior to construction beginning. No access into this area will be permitted. Signs will be installed onto the fence to ensure this.
 - A Schweglar 1FF bat box will be installed on the western aspect of the barn, overlooking the adjacent field.
- 5.4.1 The building of the menage or access track does not provide a structure that is readily adaptable to provide ecological enhancement features, as such the ecological enhancement measures are within Fields 1 and 2, both within the clients ownership and will be created and maintained in perpetuity.
- A 5 year ecological Management Plan will be prepared to include the following items, summarised
 1. Removal of willow trees around the pond and reprofile to create deep areas, shelves and draw down areas
 2. Plant hedgerow trees within the hedge along the northern boundary of Field 2 to infill hedge
 3. Create an Ecological Enhancement Area along the southern strip of Field 1 and 2 (to include the pond). To exclude grazing and manage as a grassland.

4. Create refugia pile for reptiles within Ecological Enhancement Area
5. Install 5 x bird boxes within the boundary trees of Fields 1 and 2

5.4.2 The Area of the menage and access track is some 875m². The Ecological Enhancement Area will be 1750m². Stock fencing and a gate will enclose the area and eliminate grazing.

6.0 LEGISLATION

6.1 Many sites, animals and plants are protected by European and/or UK legislation either because of their decline across Europe and the UK or due to the persecution they have placed upon them by negligent or illegal acts such as baiting or trade. Legislation is also in place to prevent the spread of introduced or non-native invasive species and harmful weeds. When undertaking an appraisal of a proposed development, such legislation is taken into account as follows.

- European: Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the ‘Habitats Directive’); and Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (codified version of Directive 79/409/EEC as amended) (the ‘Birds Directive’).
- UK (England & Wales): The Conservation of Habitats and Species Regulations 2010, as amended (the ‘Habitat Regulations’) which transposes the Habitats Directive in UK law; The Wildlife and Countryside Act 1981 (as amended); the Countryside and Rights of Way Act (CROW) 2000; the Protection of Badgers Act 1992; the Natural Environment and Rural Communities Act (NERC) (2006) and the Environmental Protection Act (EPA) 1990.

6.2 Species such as bats, great crested newts (GCN), otter, water vole, reptiles and badgers are all protected to varying degrees under this legislation.

6.3 In addition to legislation, there are also national and local planning policies pertaining to the protection of biodiversity. The National Planning Policy Framework (NPPF) (UK Government, 2018) sets out the land use planning policies of the British Government and is supplemented by Planning Practice Guidelines (PPG); Section 15 of NPPF (2018) relates to biodiversity and its protection. The British Government’s objectives for the conservation and

improvement of the natural heritage include the promotion of the conservation of landscape and biodiversity, in particular the conservation of native wildlife and habitats, ensuring that designated sites are protected and managed and safeguarding of protected species.

- 6.4 Under the NERC Act, local authorities (and other public bodies) have a duty to conserve biodiversity the local authority must take the protection of the priority habitat into consideration when it is making a planning decision.
- 6.5 The RSPB's Birds of Conservation Concern 3' (Eaton et al., 2009) is also taken into consideration when undertaking this appraisal.
- 6.6 Great Crested Newts are protected under Schedule 5 of the Wildlife and Countryside Act (1981) as amended and Schedule 2 of the Conservation (Natural Habitats etc) Regulations 1994 (Regulation 38). Because of their rarity they are also protected under Annexes IIa and IVa of the Habitats and Species Directive and under the Berne Convention.
- 6.7 It is illegal to intentionally capture or kill great crested newts; intentionally injure or recklessly disturb GCN including places used for shelter or protection. It is also an offence to damage or destroy a breeding site or resting place; intentionally or recklessly damage, destroy, or obstruct access to a place used for shelter or protection and to possess, advertise control, transport, sell, exchange or offer for sale/exchange any live or dead great crested newt or any part of one.
- 6.8 If work is proposed that would affect a European Protected Species then a license from Natural Resources Wales (NRW) will be required. NRW, in exercise of the powers conferred under regulation 53(1) and 56(3) (a) of the Conservation of Habitats and Species Regulations 2010, may issue licenses for the following purposes:
- Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
 - Preventing the spread of disease;
 - Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries; to allow people to carry out activities which would otherwise be illegal.

- 6.9 Before issuing a license under the Habitats Regulations, the licensing authority must be satisfied that “there is no satisfactory alternative” to the work as proposed and, that the proposed actions “will not be detrimental to the maintenance of the population of the species at a favourable conservation status (FCS)”.
- 6.10 To ensure these requirements are met, the licensing authority must have enough information to complete an assessment of the application. This includes sufficient survey data so that the roost and how it is used by bats is understood and impacts upon the roost are appropriately assessed so that mitigation and/or compensation can be designed into the proposed development that will ensure the bat population can be incorporated and maintained in the long term.

7.0 REFERENCES

CIEEM (2013). Guidelines for Preliminary Ecological Appraisal. Winchester. CIEEM.

Gov.uk. 2012. *National Planning Policy Framework - Publications - GOV.UK*. [online] Available at: <<https://www.gov.uk/government/publications/national-planning-policy-framework--2>> [Accessed 8 January 2021].

Natural England (2010). European Protected Species and the Planning Process.

A1 APPENDIX – SITE PHOTOGRAPHS

A1.1 Plate 1: View of plot for the building of the barn, looking north west



A1.2 Plate 2: View of plot of the menage, facing north



A1.3 Plate 3: View of plot of menage facing East



A1.4 Plate 4: View of menage plot facing south



A1.5 Plate 5: heavily grazed ground within plot of menage within Field 1



A1.6 Plate 6: remainder of Field 1 to the west of the menage plot facing north west, no development works to take place.



A1.7 Plate 7: Pond 1 showing grass within it and heavy shading from trees



A1.8 Plate 8: Central tree lined ditch between Field 1 and 2



A1.9 Plate 9: Field 2 and area of Ecological Enhancement Area



A1.10 Plate 10: Field 2, south western boundary facing south



A1.11 Plate 11. Area of refugia within Field 2 and within Ecological Enhancement Area to be retained



A2 APPENDIX – LOCAL WILDLIFE SITE CITATION

25SE01 – Nant y Ffrith, 89.4ha

Large area of conifer plantation about half of which has been recently felled and some parts planted with broad-leaved saplings. Within this site are areas of mixed woodland and birch scrub. The Nant Y Ffrith river runs along the southern boundary of the site. Where felling has occurred in the north west area, birch, heather and wavy hair-grass are dominant. The woodland ground flora occurs largely along tracks and includes plants such as wood sedge, great wood-rush, dog's mercury, hard fern, sanicle, wood millet and yellow archangel.

W210 – Nant y Ffrith. 47ha

A large wooded area on the steep sided valley of the Nant y Ffrith. The river has steep cliffs and waterfalls. There are large areas of conifer plantation. The broad-leaved woodlands are dominated by downy birch with willows and the ground flora is dominated by heather, bilberry and wavy hair-grass with occasional ferns. Bryophytes are frequent including Sphagnum species. There are several disused quarry sites surrounded by birch woodland and dwarf dry heath. Along the forestry tracks broad-leaved helleborine and common spotted orchid are found. Erosion has occurred in one disused quarry site by motor bikes. Bird species present include bullfinches and dippers. There is a herb rich semi-improved neutral grassland to the east with abundant catsear, ribwort plantain and black knapweed plus common spotted orchids occur. Darnau field is a species rich acid grassland which is grazed by cattle. It is marshy with frequent rushes and sedges and some Sphagnum species. Common bent and sweet vernal grass are dominant and common spotted orchid and lousewort occur. There is a drain across this field with hawthorn and willow bushes. The surrounding gappy hedge includes crab apple.

W202 – Glascoed Wood. 38.2ha

A large ancient broad-leaved woodland along the Glascoed valley, part of which is steep sided. The wood is dominated by oak, ash and sycamore with an area of hazel coppice and a section of larch plantation. In the shrub layer hazel, holly and rowan are frequent. There is a rich ground flora which includes frequent bramble, broad buckler fern, soft grass, bluebell and greater wood-rush. Bryophytes, yellow archangel and woodruff are occasional. The northern end of the wood has disused mines with birch and willow scrub with small patches of herb rich grasslands. A small hay field to the west is a diverse semi-improved neutral grassland dominated by common bent and ribwort plantain with abundant sweet vernal grass, crested

dog's-tail and yorkshire fog. Common spotted orchid and yellow rattle are also found here. Other herb-rich semi-improved grassland with sweet vernal grass and common bent, black knapweed, sharp-flowered rush, crested dog's-tail and yorkshire fog occurs along the western edge of the woodland. Sneezewort, greater bird's-foot trefoil and lesser spearwort also occur. Towards the southern end, alder trees are encroaching.

Figures

Figure 1: Site Location Plan

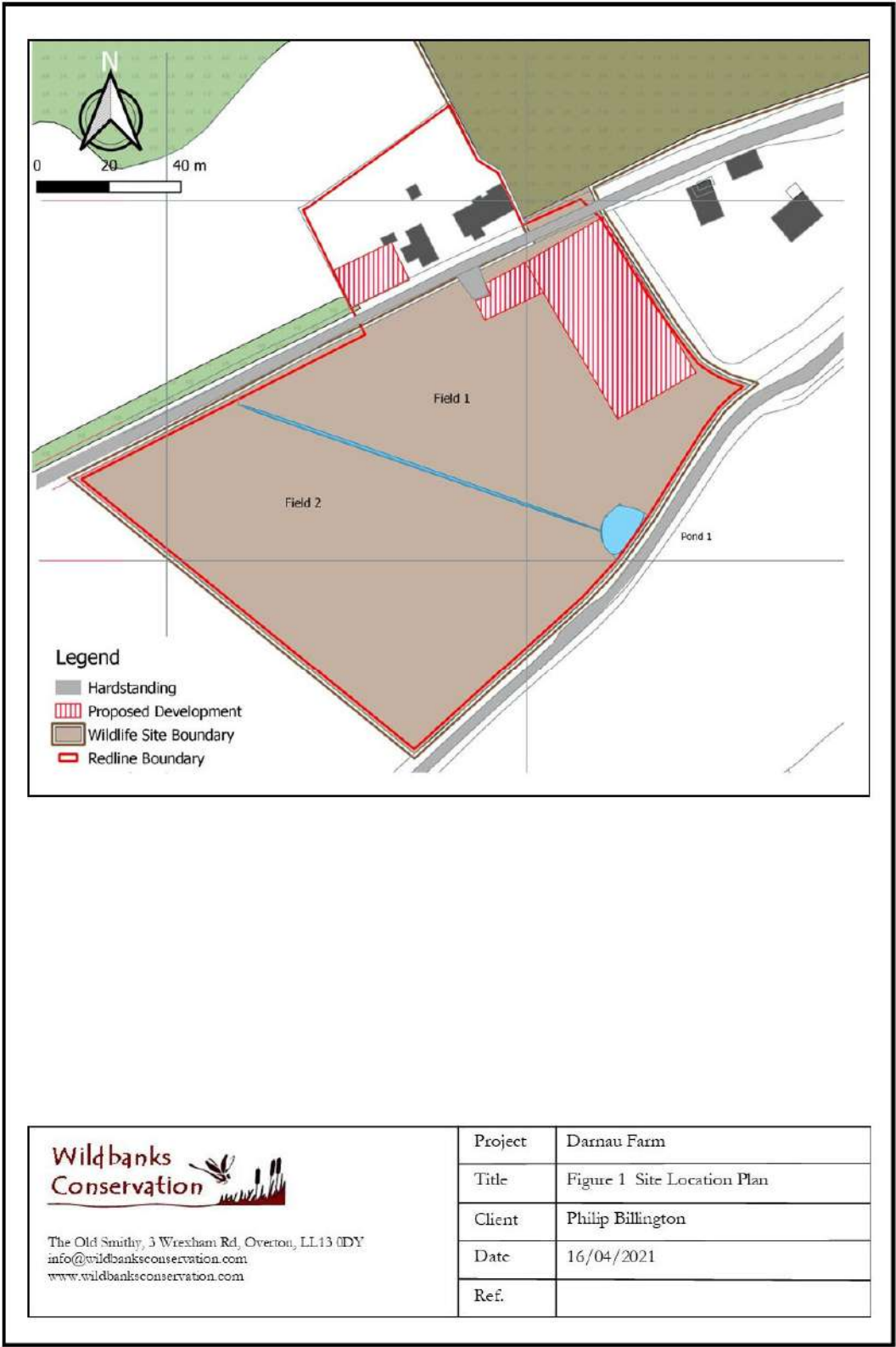


Figure 2: Local Wildlife Site location plan

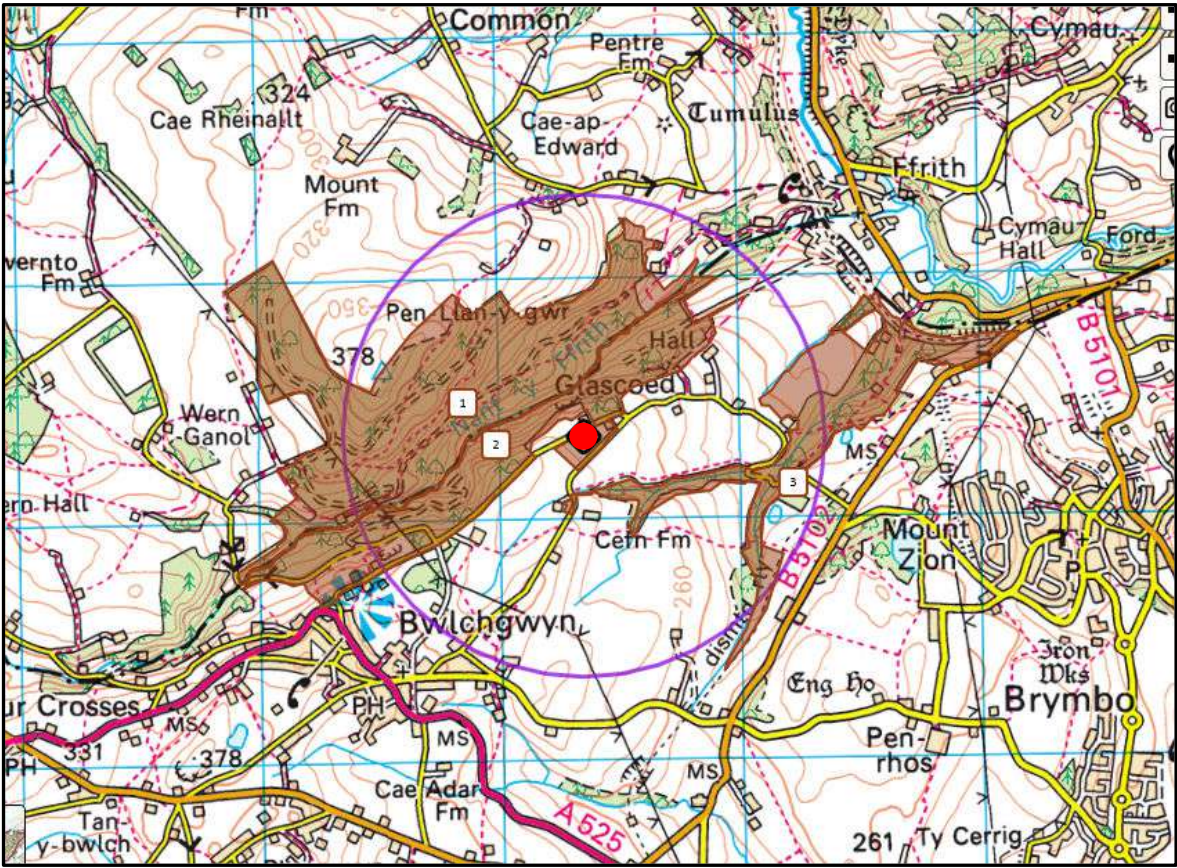


Figure 3: Ecological Enhancement Measures

