

Preliminary Ecological Survey of land at Llandegfan, Ynys Môn

for

DU Construction Ltd.

28 September 2023

ECO_1011



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GLOSSARY OF TERMS

CIEEM = Chartered Institute of Ecology and Environmental Management.

- SSSI = Site of Special Scientific Interest
- SAC = Special Area of Conservation
- TN = Target Note
- LBAP-A = Anglesey Local Biodiversity Action Plan
- HDir2 = Habitats Directive, Annex II Species requiring designation of Special Areas of

Conservation

- HDir4 = Habitats Directive, Annex IV Species in need of strict protection
- S7 = Environment (Wales) Act 2016 (Section 7)
- UKBR = RSPB/BTO Birds of Conservation Concern Red list (not based on IUCN criteria)
- WBA = RSPB/BTO Birds of Conservation Concern in Wales Amber list (not based on IUCN criteria)
- WCA5 = Wildlife & Countryside Act 1981 Schedule 5 Animals which are protected
- RL-VU = IUCN Red List of Threatened Species Vulnerable
- WRL-TM[EN] = IUCN compliant Red List for Britain's Terrestrial Mammals (Endangered)

SUMMARY

Ecoscope Ltd was requested to undertake a Preliminary Ecological Assessment of land at Gwel y Llan, Cwm Cadnant, Llandegfan, Isle of Anglesey, LL59 5YH (centroid SH 56850 74249), on behalf of the Client, Cadnant Planning.

A site visit was undertaken on 28th September 2023 and a Phase 1 survey was implemented. No impacts on protected species were identified and enhancements are included in the assessment to achieve Biodiversity Net Gain goals.

Document Issue Date: Thursday, 28 September 2023

Approved by: Mr. Stuart Kato M.Sc., MCIEEM

Prepared by: Dr Richard Birch CEcol

1. INTRODUCTION

1.1 Description of Brief

- 1.1.1 Regarding the brief, correspondence from the local authority ecologist dated 16th September 2021 states: '[*The proposal*] should be informed by appropriate ecological data and understanding from an early stage.'
- 1.1.2 Therefore, Ecoscope Ltd was requested to undertake a Preliminary Ecological
 Assessment of land at Gwel y Llan, Cwm Cadnant, Llandegfan, Isle of Anglesey, LL59
 5YH (centroid SH 56850 74249), on behalf of Cadnant Planning.

1.2 Scope of the study

1.2.1 The proposed area is a field bounded on two sides by existing residential property and is subject to an application to build 30 houses (Figure 1). Such development is accompanied by ecological assessment integral to the planning process.



Figure 1 Proposed development

- 1.2.2 As part of the Senedd commitment to Biodiversity Net Gain¹ incorporated into new development, and following the guidance provided by the Chartered Institute of Ecology & Environmental Management (CIEEM)², the report recommends compensation for potential losses and enhancements to achieve gains in the proposed development.
- 1.2.3 In accordance with the outcomes of the <u>The Convention on Biological Diversity</u> summit in Montreal in 2022, that all Nations will commit to:

'by 2030: Protect 30% of Earth's lands, oceans, coastal areas [and] inland waters'³

The report adheres to these basic principles.

¹ Environment (Wales) Act 2016 Part 1 Section 6: The Biodiversity and Resilience of Ecosystems - GOV.UK (www.gov.uk)

² <u>CIEEM-Environmental-Net-Gain-Principles-Final-July2021.pdf</u>

³ <u>New deal to protect nature agreed at COP15 - GOV.UK (www.gov.uk)</u>

2. METHOD

2.1 Desk study

- 2.1.1 The desk study involved collecting data from the following sources:
 - Protected sites locations from Magic Map at <u>https://magic.defra.gov.uk/MagicMap.aspx;</u>
 - Designations and Qualifying Features at <u>https://naturalresources.wales/</u> <u>environmental-topics/wildlife-and-biodiversity/ find-protected-areas-of-land-and-</u> <u>sea;</u>
 - Biodiversity data from the Local Environmental Record Centre (LERC) at <u>https://www.cofnod.org.uk</u>.

2.2 Field survey

2.2.1 A site visit was undertaken on 28th September by the following personnel (Table 1).

Table 1 Personnel

PERSONNEL	EXPERIENCE
Dr Richard Birch CEcol	Qualified horticulturalist and 1 st class degree in Botany. 25 years practising ecologist. Licences for bats & newts in England & Wales. Chartered since 2016
Joe Parry MSc.	Graduate assistant. BSc Biology with Biotechnology, MSc Climate Change.

2.2.2 A full walkover and Phase 1 mapping was undertaken, noting features of potential ecological significance.

3. RESULTS

3.1 Site Description

3.1.1 The location is a rectangular field bordered on two sides by residential properties and with a public footpath across it. On the north-west boundary a derelict hedge and wall (Figure 2c) form a boundary with continuous neutral semi-improved agricultural grassland. A 'green lane' runs along the north-east boundary, connected to the public footpath.



Figure 2 Target Notes #1

3.1.2 The derelict hedge and wall contain locally-sourced schistose rock with crustose lichens (Figure 2c/d). The hedge is derelict, with few remaining shrubs of any stature.

3.1.3 The field is classed as semi-improved and of low biodiversity value, with no herbs of note. A species list is included in Table 2.

COMMON NAME	LATIN NAME	COMMON NAME	LATIN NAME				
Yorkshire fog	Holcus lanatus	Broad-leaved dock	Rumex obtusifolius				
Smooth meadow grass	Poa trivialis	Meadow thistle	Cirsium arvense				
Creeping bent	Agrostis stolonifera	Timothy	Phleum pratense				
Sorrel	Rumex acetosa	Red fescue	Festuca rubra				
Common bent	Agrostis capillaris	Crested dog's-tail	Cynosurus cristatus				
White clover	Trifolium repens	Cock's-foot	Dactylis glomerata				
Meadow buttercup	Ranunculus acris	Stinging nettle	Urtica dioica				
Perennial ryegrass	Lolium perenee	Yarrow	Achillea millefolium				

Table 2 Species list for neutral grassland

3.1.4 On the north-east boundary, a species-rich hedge with trees and a wall border the adjacent green lane (Figure 3a). The hedge includes (Table 3):

COMMON NAME	LATIN NAME	COMMON NAME	LATIN NAME					
Blackthorn	Prunus spinosa	lvy	Hedera helix					
Bramble	Rubus fruticosus	Ash	Fraxinus excelsior					
Hawthorn	Crataegus monogyna	Sycamore	Acer pseudoplatanus					
Dog rose	Rosa canina							

Table 3 Species list for TN 03

3.1.5 One of the trees, a mature Ash Fraxinus excelsior (Figure 3b - TN 04) has some minor potential to support bats.



a) TN 03: Species-rich hedge alongside green lane.

Figure 3 Target Notes #2

b) TN 04: mature ash with some bat





- 3.1.6 The south-east boundary borders residential properties in the lane Gwel Eryri. The boundary bank and wall contain a diverse mixture of trees, including veterans like the felled Ash in Figure 3c, with a bole more than 2m in diameter.
- 3.1.7 A species list for Target Note 05 (TN 05) is provided in Table 4. Many of the herbaceous species are relicts of ancient woodland, suggesting the green lane and this hedgerow may have historic boundary significance.

COMMON NAME	LATIN NAME	COMMON NAME	LATIN NAME
Blackthorn	Prunus spinosa	Holly	llex aquifolium
Bramble	Rubus fruticosus	Honeysuckle	Lonicera periclymenum
Hawthorn	Crataegus monogyna	Ground Ivy	Glechoma hederacea
Dog rose	Rosa canina	Herb Robert	Geranium robertianum
lvy	Hedera helix	Soft shield fern	Polystichum setiferum
Ash	Fraxinus excelsior	Male fern	Dryopteris felix-mas
Sycamore	Acer pseudoplatanus	Broad buckler fern	Dryopteris dilatata
Hazel	Corylus avellana	Hart's-tongue fern	Phyllitis (Asplenium) scolopendrium

Table 4 Species list for TN 05

3.1.8 A Phase 1 map is included in Figure 5 Phase 1 Map, APPENDIX 1.

3.2 Desk study

3.2.1 Protected Sites and their Qualifying Features within 2km are shown in Table 5.

SITE NAME	STATUS	SUMMARY OF QUALIFYING FEATURES	AREA (Ha)	DISTANCE
Cadnant Dingle	SSSI	 Oak/ash woodland 	18	920
Glannau Porthaethwy	SSSI	 Boulder shore with bedrock & mud foundation 	67.6	870
Coedydd Afon Menai	SSSI	 Ivy-oak/ash woodland 	22.3	1.6Km
Sgistau Glas Ynys Môn	SSSI	 Precambrian blueschist (Geological) 	6.5	2.2 Km
Y Fenai a Bae Conwy / Menai Strait and Conwy Bay	SAC	 Sandbanks Mudflats Reefs Shallow inlets and bays Sea caves 	26,501	815m

Table 5 Protected Sites & their Qualifying Features within 2km

3.2.2 Significant species within 1km, identified from data supplied by Cofnod, are

included in Table 6.

Table	6	Significant	species	within	1km
	-				

COMMON NAME	LATIN NAME	STATUS
Great crested newt	Triturus cristatus	BAP, HDir2, HDir4, LBAP-A, S7, WCA5
Common Frog	Rana temporaria	HDir5, LBAP-A, WCA5
Common Toad	Bufo bufo	LBAP-A, S7, WCA5
Slow-worm	Anguis fragilis	LBAP-A, S7, WCA5
Common lizard	Zootoca vivipara	LBAP-A, S7, WCA5
House Sparrow	Passer domesticus	S7, UKBR, WBA
Dunnock	Prunella modularis	S7, UKBA
Bullfinch	Pyrrhula pyrrhula	S7, UKBA, WBR
Starling	Sturnus vulgaris	RL-VU, S7, UKBR, WBR
Kestrel	Falco tinnunculus	Bonn2, CITES-A, LBAP-A, RL-VU, S7, UKBA, WBR
Song Thrush	Turdus philomelos	LBAP-A, S7, UKBA, WBA
Tyto alba	Barn Owl	CITES-A, LBAP-A, WBA, WCA1.1, WCA9
Hedgehog	Erinaceus europaeus	LBAP-A, RL-VU, S7, WRL-TM[VU]
Common Pipistrelle	Pipistrellus pipistrellus	Bonn2, HDir4, LBAP-A, S7, WCA5
Red Squirrel	Sciurus vulgaris	LBAP-A, RL-EN, S7, WCA5, WRL-TM[EN]
Brown Long-eared Bat	Plecotus auritus	Bonn2, HDir4, LBAP-A, S7, WCA5
Noctule Bat	Nyctalus noctula	Bonn2, HDir4, LBAP-A, S7, WCA5
Lesser Horseshoe Bat	Rhinolophus hipposideros	Bonn2, LBAP-A, S7, WCA5
Hare	Lepus europaeus	LBAP-A, S7
Myotis bat	Myotis	Bonn2, HDir4, WCA5
Pipistrellus pygmaeus	Soprano Pipistrelle	Bonn2, HDir4, LBAP-A, S7, WCA5
Powdered Quaker	Orthosia gracilis	57
Bluebell	Hyacinthoides non-scripta	LBAP-A

4. CONCLUSION

4.1 Summary of results

- 4.1.1 Proposed development will not impact on Protected sites within 2km, or any of their Qualifying Features.
- 4.1.2 The grassland has few species of biodiversity value, being of pastoral grade with abundant ryegrass and other agricultural species. It has negligible potential for amphibians and reptiles.
- 4.1.3 Boundary hedges are moderately species-rich and the ground flora indicates association with ancient woodland. Some common bird species (as listed in Table 6, p. 9) may find suitable nest sites in the hedgerows.
- 4.1.4 A veteran Ash tree has a moderate potential for roosting bats.

4.2 Impact assessment

4.2.1 Without mitigation, the impact assessment (particularly focussed on bats and birds) is assessed in Table 7.

Table 7	Risk ass	sessment	(without	mitigation)
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ΙΜΡΑCΤ	FEATURE AFFECTED	RISK	SEVERITY	RISK × SEVERITY
Site clearance	 Bats – all species Breeding birds 	5	3	15
Removal of hedgerows	 Bats – all species Breeding birds 	5	4	20
Removal of trees	 Bats – all species 	5	4	20

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RISK		SEVERITY		RISK × SEVERITY		
1	Negligible	1	Negligible	1.0	Cumulative effect of likelihood × severit	
2	Slight risk	2	Low level of impact	1-9	= minor negative (potentially positive) impact	
3	Moderate risk	3	Moderate impact	10.16	Cumulative effect of likelihood × severity = moderate negative impact	
4	Event likely to occur	4	Major impact	10-10		
5	High risk of event occurring	5	Severe impact	17 - 25	Cumulative effect of likelihood × severity = major negative impact	

4.3 Conclusion

4.3.1 Potential development of the site is considered to have a **Moderate** impact on bats and nesting birds, at a **Local** level (see Table 8 for definition).

HIERARCHY OF IMPACT	DEFINITION			
International	Having an impact on the population size or habitat area of a threatened species which may be significant on a Worldwide scale.			
National Having an impact on a priority habitat or species threatened across its entrange.				
Regional	Having an impact on a priority habitat or species distribution that may be significant in any of the individual countries making up the British Isles.			
Local	Having an impact on a habitat or species that may be significant at a local level (Borough or Parish)			

Table 8 Hiearchy of impacts

- 4.3.2 Legislation applying to works that may affect bats and breeding birds is included in APPENDIX 2, p. ii.
- 4.3.3 No further ecological surveys are considered necessary.

5. **RECOMMENDATIONS**

5.1 Mitigation Strategy

- 4.1.1. Risk is reduced by implementation of a hierarchy of strategies:
 - Avoidance
 - Protection
 - Reduction
 - Enhancement
 - Mitigation
- 4.1.2 Only those relevant to the specified project will be considered.

5.2 Protection

5.2.1 Boundary trees must not be felled and the spread of branches and the root zone must be protected with galvanised (non-disposable) barrier fencing (Figure 4a). Any work done to trees that harbour the potential to support bats (e.g. TN 04) must be first approved by a qualified ecologist.



Figure 4 Mitigation

- 5.2.2 Hedges on the north- and south-east boundaries must be retained and protected in the same way. Some felling of Ash has already been undertaken and remedial replacement planting must be implemented.
- 5.2.3 Clearance of the site must be undertaken outside the nesting season. It is anticipated that Reasonable Avoidance Measures (RAM's) employed by a developer during site works will be sufficient to prevent any impact on bats or birds.

5.3 Enhancement

- 5.3.1 Within the existing layout, the hedge on the north-west boundary is derelict (Figure 2c, p. 6) and an equivalent area of hedgerow must be created.
- 5.3.2 A selection of suitable species for a species-rich hedge (Figure 4d) is included in Table 9.

COMMON NAME	LATIN NAME	0/	COMMON NAME	LATIN NAME
HEDGING PLANTS		70	TREES	
Hazel	Corylus avellana	25	Sessile Oak (T)	Quercus petraea
Field Maple	Acer campestre	5	Beech (T)	Fagus sylvatica
Hawthorn	Crataegus monogyna	25	Scot's Pine (T)	Pinus sylvestris
Holly	llex aquifolium	5	Rowan	Sorbus aucuparia
Blackthorn	Prunus spinosa	25	Alder	Alnus glutinosa
Guelder Rose	Viburnum opulus	5	Silver Birch	Betula pendula
Elder	Sambucus nigra	5	Small-leaved Lime (T)	Tilia cordata
Dog rose	Rosa canina	5	Chinese crab apple	Malus hupehensis

Table 9 Hedgerow and standard tree selection (where 'T' indicates large tree)

- 5.3.3 There is indication in the preliminary design (see Figure 1, p. 3) that small ornamental (non-native) trees have been included in the design, so some have been included in Table 9. Other small ornamental trees including Judas tree *Cercis siliquastrum*, Snowy Mespilus *Amelanchier canadensis* and Whitebeam *Sorbus aria* are appropriate choices for a suburban development.
- 5.3.4 The design in Figure 1, p. 3 shows allocation for play area / sports ground bordering on an existing property with a mixed woodland planting scheme. Scope exists to incorporate additional tree and shrub planting in this area, and inclusion of a

diverse seed mix of native pollinator-friendly species in the sward. Where sufficient tree cover has been allocated, a mix as provided in Table 10 would be suitable in low-maintenance areas, particularly along boundaries and alongside hedges.

Table 10 Woodland ground o	cover r	blanting
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WILDFLOWERS				
% of MIX	LATIN NAME	COMMON NAME		
2	Alliaria petiolata	Garlic Mustard		
1.5	Allium ursinum	Ramsons		
0.5	Cruciata laevipes	Crosswort		
2	Digitalis purpurea	Foxglove		
2.5	Filipendula ulmaria	Meadowsweet		
2	Galium album - (Galium mollugo)	Hedge Bedstraw		
1	Geum urbanum	Wood Avens		
2.5	Hyacinthoides non-scripta	Bluebell		
0.5	Primula vulgaris	Primrose		
2.5	Prunella vulgaris	Selfheal		
2.5	Silene dioica	Red Campion		
0.5	Teucrium scorodonia	Wood Sage		
20				

GRASSES					
% of MIX	LATIN NAME	COMMON NAME			
10	Agrostis capillaris	Common Bent			
2	Anthoxanthum odoratum	Sweet Vernal grass			
7	Brachypodium sylvaticum	False Brome			
20	Cynosurus cristatus	Crested Dogs-tail			
1	Deschampsia cespitosa	Tufted Hair-grass			
28	Festuca rubra	Slender creeping Red-fescue			
12	Poa nemoralis	Wood Meadow-grass			
80					

5.3.5 Provision of bat and bird boxes positioned in existing features would include:

- 1 each of Schwegler[©] (or equivalent) 1B and 2H bird boxes (Figure 4b);
- 2× Schwegler[©] (or equivalent) 2FN bat boxes, and:
- 1× Schwegler© (or equivalent) 1FF bat box, planted in group of 3 in tree approved by qualified ecologist (Figure 4c).

6. REVISED RISK ASSESSMENT

6.1.1 Implementation of the proposed mitigation and enhancements will result in biodiversity net gain and reduce the potential impact assessment as shown in Table 11.

IMPACT	FEATURE AFFECTED	MITIGATION STRATEGY	RISK	SEVERITY	RISK × SEVERITY
Site clearance	 Bats – all species Breeding birds 	 Retention of existing trees and hedgerows; Seasonality of clearance. 	1	3	3
Removal of hedgerows	 Bats – all species Breeding birds 	 Retention of existing boundaries; Replanting additional species- rich hedges. 	1	2	2
Removal of trees	 Bats – all species 	 Retention of all boundary trees Provision of bat boxes; Additional planting Appropriate Lighting 	1	2	2

Table 11 Risk assessment	(after mitigation)
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Кеу

	RISK SEVERITY		RISK × SEVERITY		
1	Negligible	1	Negligible	1.0	Cumulative effect of likelihood × severity = minor negative (potentially positive) impact
2	Slight risk	2	Low level of impact	1-9	
3	Moderate risk	3	Moderate impact	10.15	Cumulative effect of likelihood × severity = moderate negative impact
4	Event likely to occur	4	Major impact	10-16	
5	High risk of event occurring	5	Severe impact	17 - 25	Cumulative effect of likelihood × severity = major negative impact

6.1.2 Biodiversity gain is potentially achieved and although their remains residual impacts due to disturbance and the potential of external lighting, the impacts are effectively reduced to Negligible.

7. APPENDIX 1 Figure 5 Phase 1 Map



8. APPENDIX 2

Legislation

<u>Bats</u>

In Britain, all bat species and their roosts are legally protected in both domestic (the Wildlife & Countryside Act England & Wales 1981 – as amended) and international (The Habitats Directive 1992 / Conservation of Habitats and Species Regulations 2017 as amended) legislation, whereby it is an offence to:

- Deliberately take, injure or kill a wild bat
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats.
- Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time)
- Possess or advertise/sell/exchange a bat of a species found in the wild in the EU (dead or alive) or any part of a bat.
- Intentionally or recklessly obstruct access to a bat roost.

<u>Birds</u>

All birds, their nests and eggs are protected by law and it is thus an offence (with certain exceptions) to:

- Intentionally kill, injure or take any wild bird.
- 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.
- Have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act.
- Have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act.
- Use traps or similar items to kill, injure or take wild birds.

- Have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations in the Act's schedules.
- 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.