



ECOLOGICAL IMPACT ASSESSMENT FOR DEVELOPMENT PROPOSALS

At:

FFRIDD FARM (FORMER LLANGFNI GOLF CLUB), ANGLESEY

for

Mr. Brett Collett Via. Cadndnt Planning Ltd.

22/06/2026

ECO_1553



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EXECUTIVE SUMMARY

Eco-Scope Ltd was commissioned to prepare an Ecological Impact Assessment for the proposed holiday accommodation development at Ffridd Farm, the former Llangefni Golf Club, Anglesey. The proposals comprise a tourism development including 79 chalets, glamping areas and associated facilities. The assessment updates previous ecological work undertaken in 2022 and 2024, with further survey work completed between March and June 2026.

The site does not directly affect any statutory protected site or its qualifying features. No invasive non-native species were recorded on site or along the associated watercourses. The previously recorded small area of fen remains present, although its botanical diversity appears to have reduced due to lack of grazing.

Reptile surveys recorded no reptiles, consistent with the 2022 survey findings, and reptiles are considered likely to be absent. Common toad was recorded beneath refugia, although no suitable great crested newt breeding habitat is present on site. Breeding bird surveys recorded a range of common species, including several species of conservation concern. The site supports breeding and foraging habitat for common bird species, mainly associated with hedgerows, scrub and woodland edge habitats.

Bat walkover surveys recorded activity from several bat species, including soprano pipistrelle, common pipistrelle, noctule, Daubenton's bat, and brown long-eared bat. Bat activity was mainly associated with established hedgerows, treelines and watercourse corridors. The northern boundary hedgerow is considered particularly important as an east–west commuting route across the site.

In the absence of mitigation, the main ecological impacts would relate to loss of scrub and grassland habitat, disturbance or loss of nesting bird habitat, reduction in bat foraging habitat,

and potential lighting impacts on commuting and foraging bats. These impacts are assessed as being of medium significance at a local level before mitigation.

The proposed mitigation strategy should include appointment of an Ecological Clerk of Works, implementation of a Construction Environmental Management Plan, winter timing of vegetation clearance where practicable, protection of retained trees, hedgerows and watercourses, pollution prevention measures, biosecurity controls, retention of existing green infrastructure, and a bat-sensitive lighting strategy. Habitat mitigation and enhancement should include creation of standing open water, enhancement of wetland and acid grassland areas, woodland and specimen tree planting, and provision of bird, bat and owl/kestrel boxes.

*Subject to full implementation of the recommended avoidance, mitigation and enhancement measures, the residual ecological impacts are expected to be **minor at a local level**. The proposals also provide opportunities for long-term biodiversity benefit through the creation and enhancement of wetland, grassland, woodland and roosting/nesting features.*

Document Issue Date: 22/06/2026

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

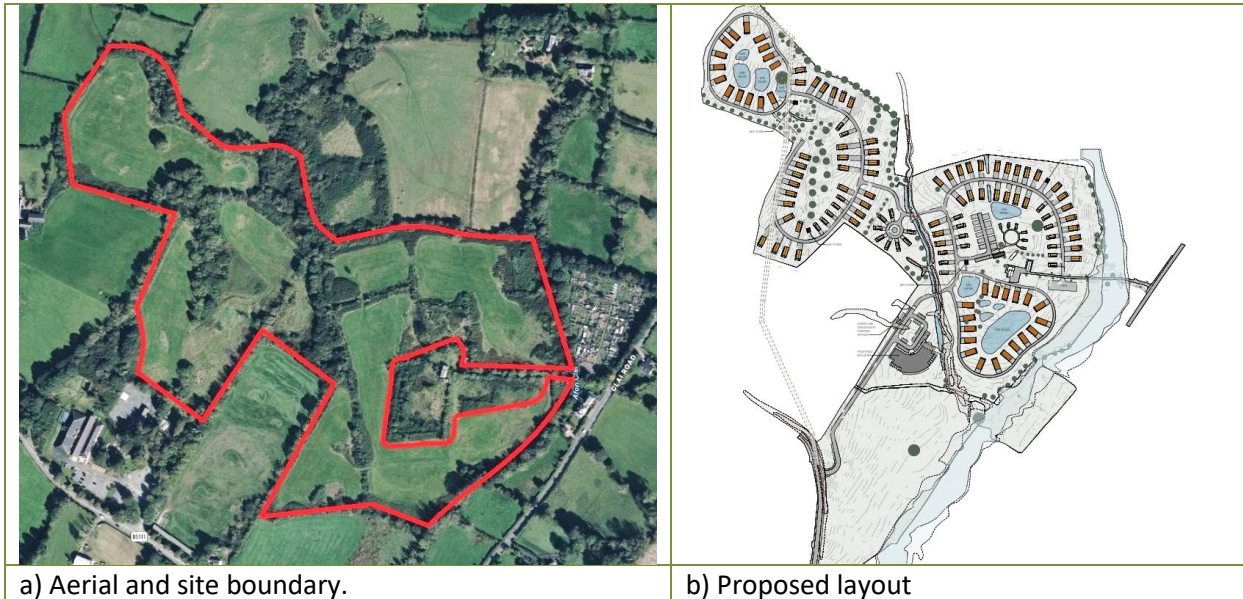
Prepared by: Dr. Richard Birch C.Ecol.

1. INTRODUCTION

1.1 Background

1.1.1 Eco-Scope Ltd was commissioned to undertake a suite of surveys at the site of Ffridd Farm: the former Llangefni Golf Club, Anglesey (centroid SH 46337 76614 – see Figure 1a).

Figure 1 Location and design



1.1.2 The site has been the subject of previous surveys including:

- Preliminary Ecological Assessment (PEA);
- Vegetation surveys;
- Bat walkover survey;
- Reptile survey;
- Breeding bird survey

1.1.3 A repeat of the PEA, reptile and breeding bird surveys were undertaken in spring 2026 to support a revised proposal.

1.2 Details of the proposal

1.2.1 The proposals are to develop the site to accommodate a holiday development comprising 79 chalets, glamping sites and facilities (see Figure 1b).

1.2.2 As part of the Senedd commitment to incorporate Net Benefit for Biodiversity¹ 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 improvement Biodiversity in the proposed development.

¹ [Environment \(Wales\) Act 2016 Part 1 Section 6: The Biodiversity and Resilience of Ecosystems - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/legislation/2016/06/16/Environment-Wales-Act-2016-Part-1-Section-6)

² [CIEEM-Environmental-Net-Gain-Principles-Final-July2021.pdf](#)

2. METHODOLOGY

2.1 Desk study

2.1.1 The desk study involved revisiting the following reports:

1. 'Preliminary Ecological Assessment of Ffridd Farm, Llangefni, Ynys Môn' January 2022 (ECO_779);
2. 'Ecological Impact Assessment (EclA) of the former Llangefni Golf Course' August 2022 (ECO_825);
3. 'Update review of Ecological Impact Assessment (EclA) of the former Llangefni Golf Course' May 2024 (ECO_1106).

2.1.2 Surveys in 2026 followed the same methodology as was undertaken previously, and the results are compared with earlier data to determine any significant change.

2.2 Field survey

2.2.1 A suite of fieldwork was undertaken from March to June by the following personnel (Table 1).

Table 1 Personnel

Name	Qualifications
Stuart Kato	Overall project lead. MD of Ecoscope Ltd 20+Years experience as an ecological consultant full member of CIEEM. NRW licence Holder for Bats, Newts and Dormice.
Dr Richard Birch	Qualified horticulturalist and 1 st class degree in Botany. 29 years practising ecologist. Licences for bats & newts in Wales. Chartered ecologist since 2016 (CEcol)
Rebekah Beresford	Bat surveyor with 11 years' experience as ecological consultant.
Lauren Crabb	Graduate ecologist with 1 st class degree in Conservation Management
Erin James	Graduate bat surveyor.
Dan Lawson	Graduate bat surveyor

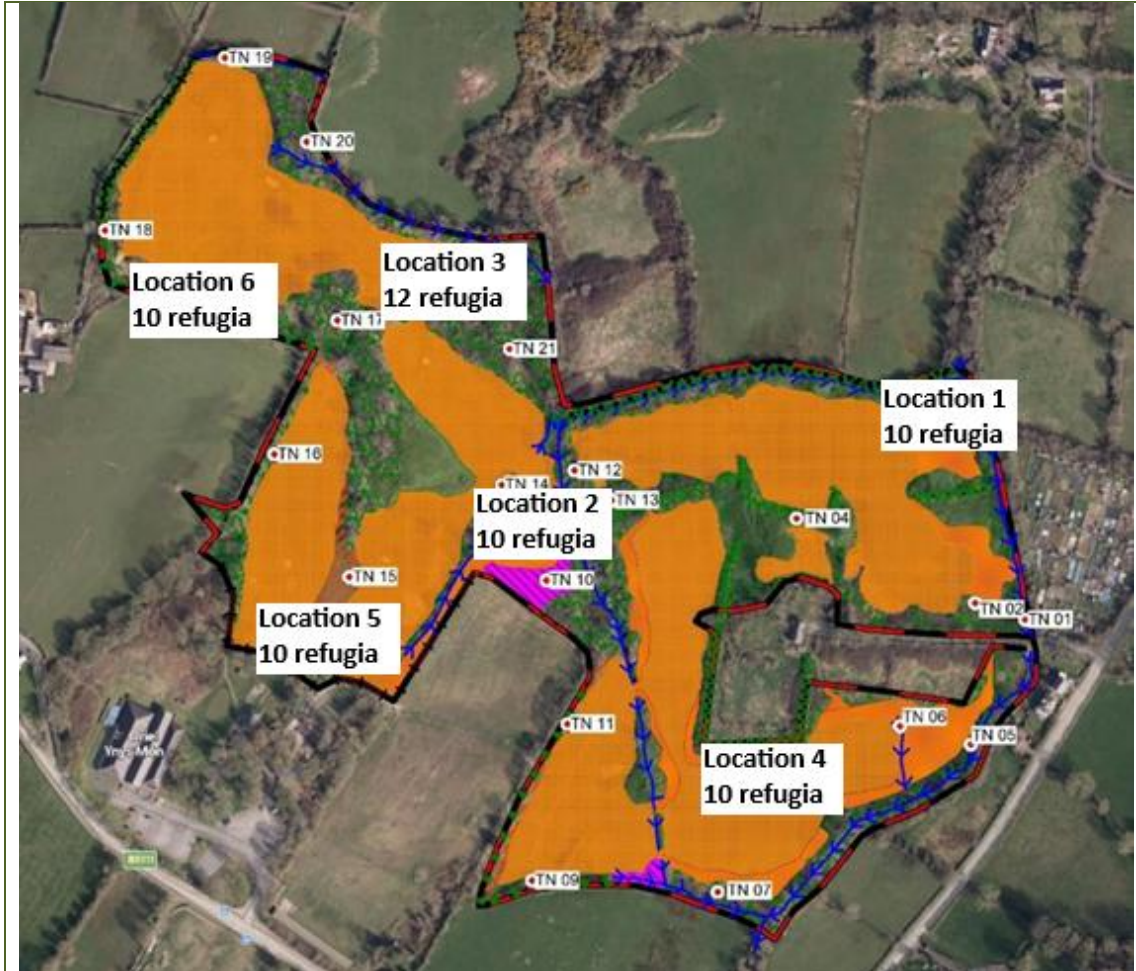
2.2.2 Given the level of the detailed botanical work undertaken in 2022 (which included extended Phase 1 survey) full habitat surveys were not repeated but the full site walked over, the results of the previous survey were confirmed.

Reptile survey

2.2.3 A total of 62 refugia were placed in six locations deemed suitable to support reptiles (see Figure 2). These were allowed to bed in for 10 days, and a minimum of 7 site

visits was undertaken between March and May to determine whether reptiles were present.

Figure 2 Refugia locations



Location of reptile refugia in 2026 (overlain onto the Phase 1 map of 2022).

Breeding Bird Survey

2.2.4 In 2022, a modified standard for the British trust for Ornithology (BTO) was employed, whereby the site was partitioned into 10 × 100m divisions around the perimeter and birds were recorded as per the BTO methodology.

2.2.5 New guidelines since then have modified the method. However, to make the data comparable, the same method used in 2022 was employed again in 2026.

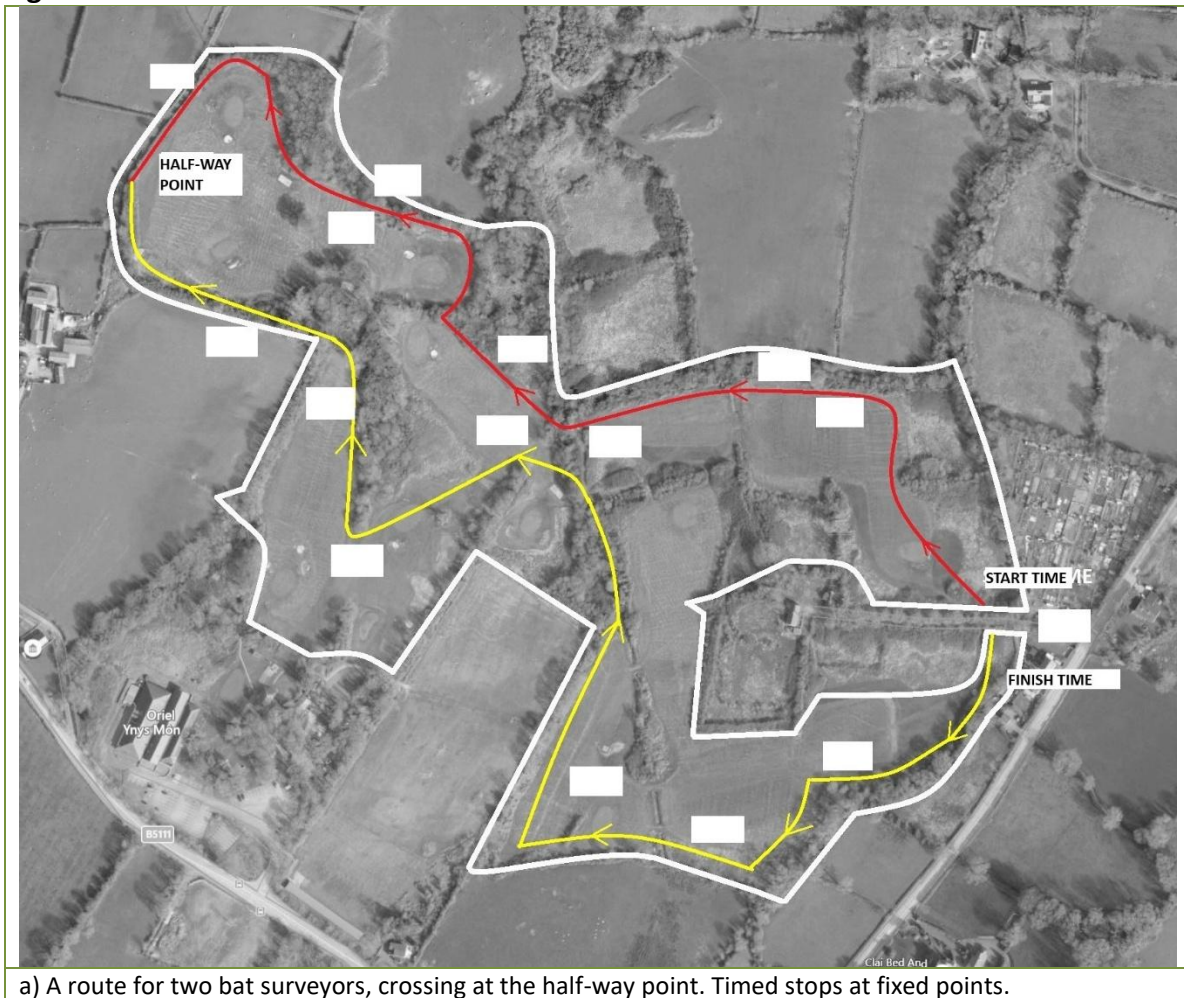
2.2.6 Surveys were conducted on:

- 30th March 2026;
- 11th May 2026.

2.3 Bat walkover survey

2.3.1 The bat walkover followed the methodology from 2022, with surveyors walking the boundary in opposite directions, meeting each other at the half-way point (Figure 3) and continuing on to meet up at the end. Timed stops are included at fixed points.

Figure 3 Bat walkover route



a) A route for two bat surveyors, crossing at the half-way point. Timed stops at fixed points.

2.3.2 Surveys were undertaken on:

- 8th May 2026;
- 10th June 2026.

2.3.3 Considering the previous survey data available and the results obtained to date, it was decided that further transect survey work was unlikely to provide any further useful information that would influence the mitigation or enhancement proposals. Sd such the information obtained to date is considered proportionate.

3. RESULTS

3.1 Desk Study

ECO 779 PEA (January 2022)

- 3.1.1 The original PEA included a desk search of protected sites and species and is repeated in Table 2 and**

Table 3.

Table 2 Protected Sites and their Qualifying Features within 5 km

SITE NAME	STATUS	SUMMARY OF QUALIFYING FEATURES	AREA	DISTANCE
Caeau Talwrn	SSSI	<ul style="list-style-type: none"> • Neutral grassland and mire; • Purple Moor Grass pasture; • Diverse botanical interest 	24 Ha.	1.3 Km
Cors y Farl	SSSI	<ul style="list-style-type: none"> • Calcareous fen with botanical interest 	12.6 Ha	3.2 Km
Cors Bodeilio	SSSI	<ul style="list-style-type: none"> • Calcareous Mire with diverse botanical interest; • Fly orchid • Narrow-leaved marsh orchid • Water vole 	54 Ha	3.5 Km
Cors Bodwrog	SSSI	<ul style="list-style-type: none"> • Mesotrophic mire • Purple Moor Grass pasture; • Breeding waders and waterfowl. 	87 Ha	4.8 Km
Corsydd Mon / Anglesey Fens	SAC	<ul style="list-style-type: none"> • Oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> sp. • Calcareous fens; • Alkaline fens; • Northern Atlantic wet heath; • Purple Moor Grass meadows; • Geyer's Whorl Snail; • Southern Damselfly; • Marsh Fritillary butterfly. 	465 Ha	3.5 Km
Corsydd Mon a Llyn / Anglesey & Llyn Fens	Ramsar	<ul style="list-style-type: none"> • Base-rich fen 	624 Ha	3.5 Km
Mallatraeth Marsh / Gors Ddyga	SSSI / RSPB reserve	<ul style="list-style-type: none"> • Breeding birds including Bittern, Marsh Harrier, Lapwing, Curlew, Redshank, Snipe, Shoveler, Tufted Duck; • Wintering waterfowl & waders; • Botanical interest 	1,359 Ha	3.6 Km
Cors Erddreiniog	NNR / SSSI	<ul style="list-style-type: none"> • Calcareous valley mire; • Limestone grassland; • Botanical interest including Marsh gentian and Fly orchid. 	250 Ha	3.4 Km

Table 3 Significant records from Cofnod data (2022)

COMMON NAME	LATIN NAME	STATUS	DISTANCE FROM CENTROID
Red Squirrel	<i>Scirus Vulgaris</i>	Schedule 5 W&CA; S7 EWA	231km
House Sparrow	<i>Passer domesticus</i>	BoCC ³ Red list	236km
Starling	<i>Sturnus vulgaris</i>	BoCC Red list	236km
Song Thrush	<i>Turdus philomelos</i>	BoCC Amber List	236km
Wren	<i>Troglodytes troglodytes</i>	BoCC Amber List	236km
Hedgehog	<i>Erinaceus europaeus</i>	Protected species	480km
Brown long-eared bat	<i>Plecotus auritus</i>	Schedule 5 W&CA; Hab. Dir, S7 EWA	531km
Slow worm	<i>Anguis fragilis</i>	Schedule 5(1) W&CA	569km
Otter	<i>Lutra lutra</i>	Schedule 5 W&CA; Hab. Dir, S7 EWA	567km
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	Schedule 5 W&CA; Hab. Dir, S7 EWA	600km
Common lizard	<i>Zootoca vivipara</i>	Schedule 5(1) W&CA	804km
Redwing	<i>Turdus iliacus</i>	BoCC Amber List	806km
Dunnock	<i>Prunella modularis</i>	BoCC Amber List	806km
Great-crested newt	<i>Triturus cristatus</i>	Schedule 5 W&CA; S7 EWA	833km
Grasshopper warbler	<i>Locustella naevia</i>	BoCC Red list	833km
Natterer's bat	<i>Myotis nattereri</i>	Schedule 5 W&CA; Hab. Dir, S7 EWA	914km
Whiskered bat	<i>Myotis brandtii</i>	Schedule 5 W&CA; Hab. Dir, S7 EWA	914km
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	Schedule 5 W&CA; Hab. Dir, S7 EWA	914km

3.1.2 In addition, the 2022 PEA recorded:

- 2 pairs Woodcock (Red listed. No longer breeds locally);
- Grey Wagtail (Amber listed. Breeds locally);
- 2x Sparrowhawk (Amber listed. Breeds locally);
- Up to 5 pairs Bullfinch (Amber listed. Breeds locally);
- 2x Red Squirrel (Schedule 5 Wildlife & Countryside Act 1981 as amended)

ECO 825 EclA (August 2022)

3.1.3 The full EclA which followed included

- Botanical survey to NVC level;
- Reptile and Amphibian survey with up to 100 'refugia'. 7 visits undertaken;

³ BoCC = Birds of Conservation Concern no. 5 (British Trust for Ornithology, 2021)

- Breeding bird survey;
- Bat flightline survey;

3.1.4 The botanical survey identified a small area of relic fen, but otherwise concluded that *'the vegetation is acid to neutral, species-poor grassland with some interest concentrated in the hedgerows and along the sides of ditches'*.

3.1.5 The breeding bird survey identified no rare or unusual species but listed the following amber-listed species as being present (

Table 4 2022 Amber-listed BBS species

COMMON NAME	COMMON NAME
Bullfinch	Willow Warbler
Dunnock	Wood Pigeon
Song Thrush	Wren
Whitethroat	

3.1.6 The reptile survey was undertaken on Spring/summer 2022. No reptiles were found during the survey.

ECO 1106 EclA Update May 2024

3.1.7 The report included an updated Phase 1 map. An informal bird survey (undertaken in early April on just one day) recorded the following species

Table 5 2024 bird records

LIST OF BIRD SPECIES			
Chiff-chaff	6	Jackdaw	10
Wren	6	Crow	2
Blackbird	5	Willow Warbler	1
Robin	3	Pheasant	1
Wood Pigeon	6	Great Tit	4
Blackcap	3	Magpie	2
Chaffinch	4	Buzzard	2
Bullfinch	1	Long-tailed tit	2
Blue Tit	4	Dunnock	2

3.2 Field Survey results

Reptile survey 2026

3.2.1 Reptile sheets ('refugia') were checked between March and early May (Table 6). In all instances, except survey 6, all 62 refugia were located. In survey 6, only 33 refugia were checked.

Table 6 Reptile survey results

Survey	Date	Start	Temperature °C	Finish	Conditions	Reptiles found
1	05/03/2026	14:30	10	15:10	Bright and sunny	Nil
2	18/03/2026	09:40	14	10:20	Bright with a gentle breeze	Nil
3	30/03/2026	10:15	9	10:50	Cloudy, cool	Nil
4	08/04/2026	10:30	15	11:20	Clear sky, gentle breeze	Nil
5	20/04/2026	09:25	11	10:20	Bright and cool	Nil
6	07/05/2026	14:45	15	15:25	Bright with a brisk breeze	Nil
7	13/05/2026	12:50	11	14:40	Cloudy with a brisk breeze.	Nil

3.2.2 Voles were common beneath refugia (indications of a 'vole year') on 30th March and Common Toad were located beneath refugia on 8th and 20th April. Common shrew were noted on 30th March, 20th April and 13th May.

Breeding Bird Survey 2026

3.2.3 A total of 31 species were recorded on the Breeding Bird Surveys (see Table 7).

Table 7 Breeding Bird Survey summary*

Species	Count		Species	Count	
	BBS #1	BBS #2		BBS #1	BBS #2
Great tit	7	4	Buzzard	3	0
Wren	10	15	Song thrush	6	6
Dunnock	5	8	Starling	2	1
Robin	16	8	Wood pigeon	3	1
Jackdaw	15	4	Pheasant	13	9
Magpie	8	2	Blackcap	1	10
Jay	1	2	Long-tailed tit	2	1
Carrion crow	3	2	Greater spotted woodpecker	2	2
Chiffchaff	12	15	Sparrowhawk	1	0
Chaffinch	4	5	Willow warbler	0	3
Goldfinch	3	0	Lesser whitethroat	0	1

Species	Count		Species	Count	
	BBS #1	BBS #2		BBS #1	BBS #2
Nuthatch	1	0	Bullfinch	0	4
Mallard	1	3	Pied wagtail	0	1
Blackbird	14	8	Goldcrest	0	1
Blue tit	16	14	Swallow	0	2
Great tit	4	3	Greenfinch	0	2
			Bullfinch	0	2

***Red** and **Amber** coloured species represent those listed on the BTO Birds of Conservation Concern (BoCC) 2019.

3.2.4 Of these, the following are confirmed, or likely to be breeding based on their behaviour and repeated occurrence in the same place.

Wren	4	Chaffinch	1
Dunnock	3	Blackbird	2
Robin	4	Blue tit	4
Jackdaw	3	Great tit	2
Magpie	1	Song thrush	1
Carrion crow	1	Wood pigeon	2
Chiffchaff	5		

3.2.5 Some particular absentees include Bullfinch (up to 5 pairs in 2022) and Grey wagtail (resident along the watercourse in 2022). The former has suffered declines due to *Trichomonosis* – a disease affecting finches, which has also caused significant declines in Greenfinch and Chaffinch (both equally under-recorded during the survey).

3.2.6 Grey wagtail declines are associated with poor water quality nationally.

3.2.7 The lateness of the migration season means that migrant species (e.g. warblers) are under-represented and this is likely to be an underestimate of the breeding bird population.

3.2.8 Incidental records made during other surveys include:

Woodcock	Red kite ×2	Linnet
Buzzard ×3	Kestrel	Common whitethroat
Tawny owl (recorded during bat walkover surveys).		

The status of these species is not confirmed, although Woodcock are generally a winter visitor and Whitethroat appeared to return to the same location they had occupied in previous years.

3.2.9 The Field results of the BBS are included in Figure 7 and Figure 8, APPENDIX 1.

Bat walkover survey – 7th May

3.2.10 The results of the bat walkover on 7th May are included in Table 8.

Table 8 Bat survey results (7th May 2026)

PERSONNEL	Rebekah Beresford	LOCATION	Llangefni Golf Course
DATE	5th May 2025	ROUTE	Anti-clockwise (Red route)
TEMP	11°C	CLOUD COVER	Partly cloudy
CONDITIONS	Very gentle breeze; slightly cool & good visibility		

START	FINISH	
20:58	22:58	
TIME	SPECIES	NOTES
21:11	Noctule	Very brief call - distant
21:20	Common Pipistrelle	Not seen
21:27	Soprano Pipistrelle	Treeline between stopping points M-N
21:51	Tawny Owl	Across 'neck' of field
21:54	Soprano Pipistrelle	Single pass
22:06	Brown Long-eared Bat	Not seen
22:10	Brown Long-eared Bat	Not seen
22:48	Soprano Pipistrelle	Pass – not seen
22:50	Soprano Pipistrelle	Foraging – probably same bat as previous
22:50	Common Pipistrelle	Single pass

PERSONNEL	Erin James	LOCATION	Llangefni Golf Course
DATE	5th May 2025	ROUTE	Clockwise (Yellow route)

START	FINISH	SKETCH
20:58	22:58	
TIME	SPECIES	NOTES
21:00	Noctule	Not seen
21:11	Noctule	Not seen
21:19	Soprano Pipistrelle	Not seen
21:21	Soprano Pipistrelle	Not seen
21:29	Soprano Pipistrelle	Commuting along hedgeline
21:35	Soprano Pipistrelle	Feeding buzzes
21:36	Soprano Pipistrelle	Not seen
21:48	Soprano Pipistrelle	Commuting along hedgeline
21:52	Soprano Pipistrelle	Commuting along hedgeline

PERSONNEL	Erin James	LOCATION	Llangefni Golf Course
DATE	5th May 2025	ROUTE	Clockwise (Yellow route)
21:55	Soprano Pipistrelle	Consistent activity around tree	
22:02	Soprano Pipistrelle	Not seen	
22:05	Soprano Pipistrelle	Not seen	

3.2.11 Survey #1 confirms early fly-by from Noctule and activity from a small number of Soprano pipistrelle.

3.2.12 Survey #2 results are included in Table 9.

Table 9 Bat survey results (10th June)

PERSONNEL	Dan Lawson	LOCATION	Llangefni Golf Course
DATE	10 th June	ROUTE	Clockwise (Yellow route)
TEMP	13°C	CLOUD COVER	Cloudy
CONDITIONS	Overcast and calm		

START	FINISH	
21:43	23:40	
TIME	SPECIES	NOTES
21:55	Soprano Pipistrelle	Brief pass
21:56	Soprano Pipistrelle	Brief pass
21:57	Common Pipistrelle	Brief pass
21:06	Noctule	Multiple noctule activity between the marked locations 5 and 10 (southern end of site)
22:24	Noctule	
22:28	Soprano Pipistrelle	Foraging treeline
22:33	Common Pipistrelle	Foraging along the hedgerow
22:40	Noctule	Activity overhead
22:56	Noctule	
23:14	Daubenton's bat	Activity along the hedgeline between points 17 and 19 (northern margin) including interaction between individuals.
23:20	Daubenton's bat	
23:35	<i>Myotis undet.</i>	Foraging along river.

PERSONNEL	Rebekah Beresford	ROUTE	Clockwise (Yellow route)
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START	FINISH	
21:43	23:40	
TIME	SPECIES	NOTES
22:03	Noctule	19 Noctule following the route as shown on the sketch map.
22:10		
22:23	Tawny owl	Flew across field along route no. 9 – consistent with its location in previous survey.
22:28		
23:13	Daubenton's bat	Along treeline
23:17	Daubenton's & Whiskered bat	'Hedge-hopping': both bats along route 11.
23:27	Soprano Pipistrelle	Brief foraging passes.
23:30	Soprano Pipistrelle	

4. CONCLUSIONS

4.1 Summary of results

- 4.1.1 The proposal does not impact on any protected site or its qualifying features.
- 4.1.2 There was no indication of Invasive Non-Native Species on site or along waterways.
- 4.1.3 No reptiles were recorded (as in 2022), despite records within 1km. The conclusion is that they are likely absent.
- 4.1.4 There are no suitable breeding areas on site for Great crested newt. Common Toad are present, although the nearest breeding locality is 700m to the east (or 1.1km to the west). Toads will travel many miles from their breeding ponds.
- 4.1.5 The Phase 1 and vegetation surveys were not repeated because there are no significant changes over the 4-year period. The small area of fen recorded in the previous years is still present, but lack of grazing has reduced the floral diversity.
- 4.1.6 The Breeding Bird Survey recorded a suite of common species, with notable declines in Greenfinch, Chaffinch and Bullfinch since 2022 due to the ravages of *Trichomonosis* disease. Migration movements of warblers was evident in the early survey, but few stayed on to declare territories.
- 4.1.7 The bat walkover observed a limited number of species in the 1st survey, primarily feeding and commuting along established site boundary hedge lines.
- 4.1.8 In the 2nd survey, much greater activity was recorded, particularly from Noctule *Nyctalus noctua*.
- 4.1.9 There was no indication of use by either Badger or Otter (although Otter may forage along the Afon Clai) and no reference to other species in the Cofnod data. Although a consideration red squirrel habitat on site is sub optimal with suitable habitat limited to the areas close to the river.

4.2 Impact assessment

4.2.1 The impact of the proposal without mitigation is detailed in Table 10.

Table 10. Impact assessment (*without* mitigation)

IMPACT	FEATURE AFFECTED	DESCRIPTION
Loss of scrub	<ul style="list-style-type: none">• Breeding birds• Bat foraging habitat	Potential loss of nesting and foraging habitat. Un-mitigated impact would be medium on a local scale.
Loss of grassland habitat	<ul style="list-style-type: none">• Bats	Potential loss of foraging habitat. Un-mitigated impact would be medium on a local scale.
Disturbance (lighting)	<ul style="list-style-type: none">• Bats	Without mitigation lighting could have a negative impact on bat foraging habitat.

4.3 Conclusion

4.3.1 Without mitigation, the initial site clearance and construction phase could have impacts on species including bats and nesting birds which is assessed as being **medium at a local Level**.

4.3.2 Without mitigation longer term impacts by inappropriate lighting could have an adverse effect on foraging bats. The impact would be **medium at a local level**.

5. RECOMMENDATIONS

5.1 Mitigation Strategy

5.1.1. Mitigation is a hierarchy of strategies consisting of:

- Avoidance
- Protection
- Reduction
- Mitigation
- Enhancement

5.1.2 Only the relevant strategies are considered.

5.1.3 It is recommended that an Ecological Clerk of Works (EcoW) be appointed to oversee activities that may have an impact on biodiversity and that a CEMP is implemented for the proposals.

5.2 Avoidance

5.2.1 Impacts can be avoided by timing the site clearance during winter months (between November and February), being the best times to avoid the nesting season and bat activity.

5.2.2 Existing watercourses feed into Malltraeth SSSI and ultimately into the marine SAC / SPA. Pollution can be avoided by demarcation of a boundary to water courses and their associated vegetation.

5.2.3 Appropriate levels of biosecurity must be observed to avoid the importation of INNS. This must apply to Plant and Personnel. The correct biosecurity measures must be included in the CEMP and overseen by the appointed EcoW.

5.3 Protection

5.3.1 Water courses and tree root zones must be demarcated using metal barrier fencing (Figure 4a).

5.3.2 Guidance for Pollution Prevention: Works and Maintenance in or near Water ([GPP 5](#)) must be adhered to when working near any water course.

5.4 Reduction

5.4.1 The design must leave as much of the existing green infrastructure in place as is possible, including hedgerows, trees, standing and dead wood and watercourses with their vegetated margins.

5.4.2 Retention of hedgerows, particularly along the northern boundary, is important to maintain a flight route east-to-west across site, used by multiple bat species.



5.5 Mitigation

5.5.1 The biodiversity mitigation and enhancements will include:

- **Standing open water**: attenuation ponds or amenity open water;
- **Enhancement to botanical diversity**: enrichment of grassland areas with mixtures appropriate to acid grassland; tree planting (including non-native ornamentals with known wildlife benefits);
- **Facilities to aid nesting birds and bats**: Nestboxes, shrub-planting.

5.5.2 Standing open water is included in the existing design, although there is no commitment to ensure that their water-holding potential is relatively stable and permanent (Figure 4b).

Figure 4 Mitigation proposals #1

	
<p>a) Galvanised metal barrier</p>	<p>b) Proposed layout with 'basin' areas capable of holding standing open water.</p>

5.5.3 Wet areas would be enhanced by strategic introductions of plants suited to the ground conditions and area. Around wetlands, the following mix (and recommended substitutions) is indicated (Table 11):

Table 11 Pond edge seed mix (Emorsgate© EP 1)

% MIX	LATIN NAME	COMMON NAME
0.2	<i>Angelica sylvestris</i>	Wild Angelica
0.9	<i>Betonica officinalis</i>	Betony
2.4	<i>Centurea nigra</i>	Knapweed
0.6	<i>Dipsacus fullonum</i>	Teasel
0.2	<i>Eupatorium cannabinum</i>	Hemp Agrimony
2	<i>Filipendula ulmaria</i>	Meadowsweet
1	<i>Galium album</i>	Hedge Bedstraw
0.6	<i>Geum rivale</i>	Water Avens
4	<i>Iris pseudacorus</i>	Yellow Iris
0.4	<i>Lathyrus pratensis</i>	Meadow Vetchling
0.1	<i>Lotus pedunculatus</i>	Greater Bird's-foot Trefoil
1	<i>Lythrum salicaria</i>	Purple Loosestrife
0.2	<i>Oenanthe pimpinelloides</i>	Corky-fruited Water Dropwort ⁴
2	<i>Prunella vulgaris</i>	Self-heal
1	<i>Ranunculus acris</i>	Meadow Buttercup
0.4	<i>Silene dioica</i>	Red Campion
1.2	<i>Silene flos-cuculi</i>	Ragged Robin
1	<i>Vicia cracca</i>	Tufted Vetch
GRASSES		
% MIX	LATIN NAME	COMMON NAME
8	<i>Agrostis capillaris</i>	Common Bent
4.8	<i>Carex echinata</i>	Star Sedge
36	<i>Cynosurus cristatus</i>	Crested Dog's-tail
24	<i>Festuca rubra</i>	Red Fescue
1.6	<i>Phleum bertolonii</i>	Small Cat's-tail
6.4	<i>Poa pratensis</i>	Smooth-stalked Meadow Grass

100%

5.5.4 Native grassland has an acid composition and can be augmented by the addition of a mix with the following species (Table 12):

⁴ The recommended substitution for this species is [Tubular Water Dropwort](#) *Oenanthe pimpinelloides* – listed as a Biodiversity Action Plan species on Anglesey.

Table 12 Acid grassland seed mix (Emorsgate© EM 10)

% of MIX	LATIN NAME	COMMON NAME
0.2	<i>Achillea millefolium</i>	Yarrow
1	<i>Agrimonia eupatoria</i>	Agrimony
1	<i>Angelica sylvestris</i>	Wild Angelica
1.5	<i>Arctium minus</i>	Lesser Burdock
2.5	<i>Centaurea nigra</i>	Common Knapweed
2	<i>Centaurea scabiosa</i>	Greater Knapweed
1	<i>Chaerophyllum temulum</i>	Rough Chervil
1.5	<i>Daucus carota</i>	Wild Carrot
1	<i>Dipsacus fullonum</i>	Wild Teasel
1	<i>Galium album - (Galium mollugo)</i>	Hedge Bedstraw
0.5	<i>Geranium pratense</i>	Meadow Crane's-bill
0.5	<i>Knautia arvensis</i>	Field Scabious
0.5	<i>Leucanthemum vulgare</i>	Oxeye Daisy - (Moon Daisy)
1	<i>Plantago lanceolata</i>	Ribwort Plantain
1.3	<i>Prunella vulgaris</i>	Selfheal
1.5	<i>Silene dioica</i>	Red Campion
0.5	<i>Torilis japonica</i>	Upright Hedge-parsley
1.5	<i>Vicia sativa ssp. segetalis</i>	Common Vetch
GRASSES		
% of MIX	LATIN NAME	COMMON NAME
2	<i>Alopecurus pratensis</i>	Meadow Foxtail (w)
16	<i>Cynosurus cristatus</i>	Crested Dog's-tail
16	<i>Dactylis glomerata</i>	Cocksfoot (w)
4	<i>Deschampsia cespitosa</i>	Tufted Hair-grass (w)
24	<i>Festuca rubra</i>	Strong-creeping Red-fescue
2	<i>Holcus lanatus</i>	Yorkshire Fog
10	<i>Schedonorus arundinaceus - (Festuca arundinacea)</i>	Tall Fescue (w)
6	<i>Schedonorus pratensis (Festuca pratensis)</i>	Meadow Fescue
100%		

5.5.5 Within the footprint, there are areas where woodland can be created, using native trees that are already present (with the removal of Ash *Fraxinus excelsior* from the mix because of the impacts of ash dieback) - Table 13.

Table 13 Woodland creation mix

TREES	
COMMON NAME	LATIN NAME
Beech	<i>Fagus sylvatica</i>
Sessile oak	<i>Quercus petraea</i>
Holm oak	<i>Quercus ilex</i>
Bird cherry	<i>Prunus padus</i>
Rowan	<i>Sorbus aucuparia</i>
Scot's Pine	<i>Pinus sylvestris</i>
Holly	<i>Ilex aquifolium</i>
Hazel	<i>Corylus avellana</i>

5.5.6 Elsewhere, specimen trees which provide biodiversity benefit and ‘future-proof’ the landscape would include the following:

		Small-leaved Lime	<i>Tilia cordata</i>
Scot's Pine	<i>Pinus sylvestris</i>	Sweet Gum, Liquidamber	<i>Liquidamber styraciflua</i>
Native Black Poplar	<i>Populus nigra</i>	Sweet Chestnut	<i>Castanea sativa</i>
Hill Cherry	<i>Malus hupehensis</i>	Giant Redwood	<i>Sequoiadenron giganteum</i>

5.5.7 Specimen trees will be positioned to enhance flight-routes (i.e. as screens). The selection therefore includes evergreen species to be strategically placed where they may divert bats through lit areas.

5.5.8 The provision of bird and bat boxes will compensate for losses of roosting and nesting habitat. The following would be fitted in appropriate locations:

Figure 5 Mitigation proposals #2



- 2× Schwegler© (or equivalent) 1B hole-type nestboxes;

- 2× Schwegler© (or equivalent) 2H open-fronted nestboxes;
- 4× Schwegler© (or equivalent) 2FN bat boxes;
- 2× Schwegler© (or equivalent) 1FF bat boxes;
- 1× Barn owl / Kestrel nestbox erected on a pole at 10m (Figure 6a).

5.5.9 Owl / Kestrel boxes can be tree-mounted, or if no appropriate tree exists, erected as shown in Figure 6a.

Figure 6 Mitigation proposals #3



5.5.10 All lighting will conform to the guidance provided in the Institute of Lighting Professionals '[Bats and Artificial Lighting at Night](#)' (Guidance Note 08/23). Lighting must be included as an integral part of the design.

5.6 Revised Risk Assessment

5.6.1 Post mitigation, a revised assessment of risk is included in Table 14.

Table 14 Impact assessment (after mitigation)

IMPACT	FEATURE AFFECTED	MITIGATION STRATEGY	RISK	SEVERITY	RISK × SEVERITY
Site clearance and development	<ul style="list-style-type: none"> Breeding birds Bats Red squirrel 	<ul style="list-style-type: none"> Provision of EcoW; Avoidance and protection of existing features; Planting schemes; Bird and bat boxes 	2	3	6
Loss of grassland habitat	<ul style="list-style-type: none"> Bats 	<ul style="list-style-type: none"> Enhancement of species diversity; Tree planting; Woodland creation; Bat boxes Wetland areas; Bat-friendly lighting 	2	2	4
Loss of scrub	<ul style="list-style-type: none"> Breeding birds 	<ul style="list-style-type: none"> Woodland creation; Bird boxes 	3	2	9
Disturbance (lighting)	<ul style="list-style-type: none"> Bats 	<ul style="list-style-type: none"> Bat-friendly lighting 	3	2	10

Key

RISK		SEVERITY		RISK × SEVERITY	
1	Negligible	1	Negligible	1-9	Cumulative effect of likelihood × severity = minor negative (potentially positive) impact
2	Slight risk	2	Low level of 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		
5	High risk of event occurring	5	Severe impact	17 - 25	Cumulative effect of likelihood × severity = major negative impact

5.6.2 Following mitigation, there are residual impacts associated with site clearance and development. These are reduced as the works progress, and the provision of EcoW ensures compliance with the proposed strategy.

5.6.2 Lighting remains a high impact for foraging bats, but correct lighting policy and provision of screening using specimen trees reduces this risk over time.

5.6.3 Overall, impacts are reduced to being **Minor** at a **Local** Level, with some long-term benefits due to the addition of wetland and woodland.

5.6.4 A summary of mitigation / compliance audit is included in Table 15.

Table 15 Checklist / compliance audit

No.	STRATEGY	ACTION	COMPLIANCE
1.	Avoidance	Timing of works	
2.	Avoidance	Demarcation of works boundaries	
3.	Avoidance	Adherence to GPP 5 and Biosecurity policies	
4.	Protection	Water courses and tree root zones demarcated with barriers	
5.	Reduction	Preserving existing green infrastructure, particularly hedgerows, to retain flight lines	
	Enhancement	Botanical enrichment with seed mixes for grassland and aquatic margins	
	Enhancement	Specimen tree planting	
	Mitigation	Creation of standing open water	
	Mitigation	Woodland creation	
	Mitigation	Provision of bat, owl and nesting bird boxes	
	Mitigation	Bat-friendly lighting policy	

2. APPENDIX 2

Summary of legislation

Bats

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.

Birds

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.