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Preliminary Ecological Appraisal & Roost Assessment

Survey site:
Ben Tara, Maes Mawr Road, Garth, Llangollen, Wrexham, LL20 7YW

Client:
Adrian Fletcher

Survey date:
29/06/2026

Project:
This report is prepared to inform a planning application with Wrexham County Borough Council. The proposal can be described as vertical extension of existing house.

On the assumption that site conditions and habitats remain unchanged, the results of this assessment will remain valid for 18 months from the date of this survey i.e. until December 2027, in accordance with CIEEM guidance in the lifespan of Ecological Reports and Surveys. This survey and report should be updated if a planning application has not been submitted within this timeframe.

EXECUTIVE SUMMARY

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in the proceeding sections of this report.

Table 1: Summary of key findings arising from this survey.

Key Findings
• A low impact lighting strategy will be adopted for the site during and post-development, which will be designed to incorporate the measures laid out in the latest (2023) bat lighting guide Guidance Note 8 Bats and Artificial Lighting[1].

1. INTRODUCTION

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging or commuting.

No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author's knowledge, by any other consultancy.

Methodology

PEA survey methodology and legislation can be found in the Arbtech Supplement: PEA Methodology and Legislation - 2025.
PRA survey methodology and legislation can be found in the Arbtech Supplement: PRA Methodology and Legislation - 2025.

Survey Details

The site survey was undertaken on 29/06/2026 by Kayleigh Davies BSc (Hons), MSc, Consultant Ecologist accredited on Natural Resource Wales License (S094455/2) and holder of Level 1 GCN NRW license (S094823/1).

Table 2: The weather conditions during the survey.

Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
16.5	70.0	49	17.6	None

Survey Limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood.

A biological records data search has not been undertaken. However, given the location of the site, the nature of the habitats present and the assessed suitability of the site for protected or notable species, it is not anticipated that the purchase of biological records data will add any significant weight or alter the conclusions and recommendations outlined in this report.

2. SITE LOCATION AND LANDSCAPE CONTEXT

2.1 Summary of Survey Findings

Site Location & Context

The site is centred at National Grid reference SJ 25389 43154 and has an area of approximately 0.07ha.

The site is enclosed by fencing to the north and hedgerows around the remainder of the site.

The site is located in a rural setting, immediately surrounded by agricultural land. The wider landscape consists of further fields and woodland, with hedgerow lined fields and stone walls. The site i connected to residential dwellings associated with the village of Garth to the southeast.

A review of historic maps indicates the landscape has remained largely unchanged since the late 1800s.

No ponds or watercourses are located on site or adjacent to site. Medium, loamy but locally light, silt-rich soil and subsoil. Mildly Acidic to Neutral (pH: 4.5 - 6.5).

Priority Habitats

There are nine priority habitats within 2km of the site. These comprise plantation on ancient woodland site, lowland dry acid grassland, restored ancient woodland site, traditional orchards, ancient semi natural woodland, wood pasture, upland heathland, lowland calcareous grassland and lowland fens and reedbeds. The closest priority habitat comprises plantation on ancient woodland site, located 90m NE from the site.

The site is well connected to nearby habitats via field margins, hedgerows and tree lines.

Designated Sites

Statutory Designations within 2km

There are four statutory designations within 2km of the site, as detailed below:

Table 3: The statutory designated sites within 2km of the site boundary.

Designation	Reason	Distance from Site

Llantysilio Mountains And Minera Site of Special Scientific Interest (SSSI)	Ruabon/Llantysilio Mountains and Minera SSSI occupies a major upland block stretching north from the Dee Valley between Corwen and Ruabon for a distance of up to 9 kms. It rises to an altitude of around 580 m. The site is notified firstly on biological grounds, for its heather moor, limestone and neutral grassland habitats and for its species interest comprising a range of upland breeding birds, rare and uncommon plants and the use of mines and caves by bats.	565m NW
Afon Dyfrdwy (River Dee) Site of Special Scientific Interest (SSSI)	The Dee Estuary/Aber Afon Dyfrdwy is of special interest for its total populations of internationally important wintering waterfowl; its populations of individual waterfowl and tern species whose numbers reach national and in some cases, internationally important levels; its intertidal mud and sandflats, saltmarsh and transitional habitats; the hard rocky sandstone cliffs of Hilbre Island and Middle Eye with their cliff vegetation and maritime heathland and grassland; its assemblage of nationally scarce plants; and its populations of sandhill rustic moth Luperina nickerlii gueneei, a Red Data Book species.	1445m NE
Berwyn And South Clwyd Mountains Special Area of Conservation (SAC)	designated for blanket bog, base-rich scree, dry heaths, dry grassland, very wet mires.	565m SW
Afon Dyfrdwy A Llyn Tegid (Wales) Special Area of Conservation (SAC)	Designated for marine habitats and mammals.	1445m W

Statutory Designations within 10km

There are three additional national network sites (SAC, SPA, Ramsar) located within 10km, as detailed below:

Table 4: The additional national network sites within 10km of the site boundary.

Designation	Distance from Site

Johnstown Newt Sites Special Area of Conservation (SAC)	4960m NE
River Dee And Bala Lake Special Area of Conservation (SAC)	5680m SE
Berwyn Special Protection Area (SPA)	6370m SW

SSSI Risk Zone
The site does fall within the impact risk zone for Llantysilio Mountains And Minera SSSI however, the proposed development type is not listed as possible high risk with regard to this designation.

Non-Designated Sites
The presence of non-statutory designated sites within 2km of the site cannot be established without data from the local records centre. Whilst some habitats in the wider landscape may host designations, the immediate environs of the site do not host habitats likely to be of designable quality.

2.2 Foreseen Impacts

No direct impacts to any designated sites will occur as a result of the proposed development, due to the small scale and low overall impact of the development from such sites (where known), alongside additional factors such as distance in combination with connectivity disrupting barriers.

2.3 Recommendations

No recommendations.

3. ONSITE HABITATS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

3.1 Summary of Survey Findings

Modified grassland (g4)

The site is covered with grassland comprised of a low variety of common grassland species. This grassland is actively managed via regular mowing, resulting in a short sward of ~5cm. No signs of compaction or damage are present, resulting in areas of bare ground totalling <10% of the site. The species composition is poor, with less than 8 vascular plant species present per m2.

Table 5a: Species abundance for modified grassland.

Abundance	Species
Dominant	Perennial Rye-grass *(Lolium perenne)*
Abundant	Creeping Buttercup *(Ranunculus repens)*, Dandelion *(Taraxacum)*
Frequent	Daisy *(Bellis perennis)*
Occasional	White Clover *(Trifolium repens)*
Rare	Thistle sp. *(Cirsium sp.)*

Developed land; sealed surface (u1b)
Sections of hard-standing surface are present in the form of a tarmac driveway and paving in front of B1.

Non-native and ornamental hedgerow (h2b)
The site is enclosed by non-native and ornamental hedgerow along sections of the eastern, northern and western site boundaries. The hedgerow is actively maintained at ~1.7m(h) and ~1.5m(w)]. The hedgerow appears densely vegetated at canopy level, though the understorey is relatively open and sparsely vegetated.

Table 5b: Species abundance for non-native and ornamental hedgerow.

Abundance	Species
Dominant	Lawson's Cypress *(Cupressus lawsoniana)*
Abundant	-
Frequent	-

Occasional	-
Rare	-

Building (u1b5)
There are two buildings on site; one is a residential dwelling and one is a garage.

3.2 Foreseen Impacts

No direct impacts to any habitats on site will occur as a result of the proposed development.

3.3 Recommendations

4. INVASIVE SPECIES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

4.1 Summary of Survey Findings

No non-native invasive or otherwise problematic plants were recorded on site or are considered likely to be on site, but, given seasonal limitations and the sites wider context, may be visible at other times of year.

4.2 Foreseen Impacts

None.

4.3 Recommendations

No further surveys but remain vigilant.

5. FAUNA: BATS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

5.1 Summary of Survey Findings

EPSL data and local records
Records within 2km of the site are unknown without data from COFNOD.

There are no Special Areas of Conservation designated for bats within 10km of the site.

Foraging and commuting habitat
Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of modified grassland and non-native and ornamental hedgerow, and offsite within 2km including plantation on ancient woodland site, lowland dry acid grassland, restored ancient woodland site, traditional orchards, ancient semi natural woodland, wood pasture, upland heathland, lowland calcareous grassland and lowland fens and reedbeds. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations.

Roosting habitat
Buildings to be impacted by the proposed development were assessed for their suitability to support roosting bats below. There are a total of two buildings on site; residential dwelling (B1) and garage (B2). All buildings were surveyed as they will be impacted by the proposed development. There was no evidence of roosting bats identified.

Buildings

B1 : Residential dwelling

The building is a residential dwelling located on the site. Its construction is modern and appears to be well-sealed with no obvious entry points or suitable internal voids, such as loose mortar or damaged soffits, that would typically be used by roosting bats. There is one section of a lifted tile, but this does not appear to offer suitable habitat for roosting bats due to the small crevice created and the presence of intact tiles surrounding. Consequently, the building has negligible habitat value.



Building B1

B2 : Garage

The building is a garage attached to the south of B1, constructed with solid walls and a well-sealed flat roof, offering no accessible voids or crevices suitable for bat roosting. Its smooth internal surfaces and lack of significant structural complexity mean it provides no refuge or potential roosting sites for bats. The building has negligible habitat value.



Building B2

5.2 Foreseen Impacts

Roosting habitat [Buildings]

Bats are very unlikely to be roosting within B1 and B2 and as such, there are not anticipated to be any impacts on bats in these locations as a result of the proposed development.

Roosting habitat [Trees]
There are no trees on site, therefore no impacts are foreseen.

Foraging and commuting habitat
The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. However, the proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.

Artificial lighting
The proposed development may lead to an increase in the amount of current lighting of surrounding habitats or the retained building without mitigation. This may disturb commuting bats.

5.3 Recommendations

Roosting habitat [Buildings]
In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.

Roosting habitat [Trees]
None.

Foraging and commuting habitat
No further surveys are required.

Artificial lighting
A low impact lighting strategy will be adopted for the site during post-development which outlines the areas of the site that will be retained as dark corridors. Parameters can be found on the Bat Conservation Trust website: https://www.bats.org.uk/news/2023/08/bats-and-artificial-lighting-at-night-ilp-guidance-note-update-released

Suggested biodiversity enhancements
The installation of one bat box at the site will provide additional roosting habitat for bats.

The bat boxes will be incorporated into the fabric of the extension. Suitable bat boxes include Habibat Bat Box, Ibstock Enclosed Bat Box] or similar

alternative brand.

Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.

6. FAUNA: BIRDS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

6.1 Summary of Survey Findings

Buildings
No evidence of nesting birds was identified on or within B1 and B2. B1 and B2 are deemed to provide negligible habitat value for nesting birds due to a lack of suitable nesting sites or access points.

Trees and vegetation
No bird nests were identified within the vegetation on-site, however non-native and ornamental hedgerow offers nesting opportunities and nest-building resources for birds, and modified grassland offers foraging opportunities.

Due to the small size of the site and the extent and type of the habitats recorded, the site is not considered suitable to support a significant assemblage of protected and/or notable birds.

Barn Owls
The site does not appear to provide any suitable nesting sites for barn owls.

6.2 Foreseen Impacts

Buildings / trees
The proposed development is unlikely to result in the destruction or the disturbance and subsequent abandonment of active bird nests.

Trees and vegetation

None foreseen.

Barn Owls
None foreseen.

6.3 Recommendations

Buildings / trees
None.

Precautions should be taken with machinery and noise levels when working close to any retained habitats so as not to disturb any nearby nesting birds during construction works.

Trees and vegetation
No additional surveys required.

Barn Owls
No further barn owl surveys required.

Suggested biodiversity enhancements
The installation of a minimum of one bird boxes on on retained buildings will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings), Schwegler 1SP Sparrow Terrace (buildings), Schwegler 1B Nest Boxes (trees), Schwegler 2H Robin Boxes (trees), Woodstone Nest Box (buildings or trees) or a similar alternative brand].

Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.

Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.

7. FAUNA: REPTILES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

7.1 Summary of Survey Findings

EPSL data and local records
Records within 2km of the site are unknown without records from COFNOD.

Habitat suitability
The dominant habitat onsite (modified grassland) is considered unsuitable for reptiles due to the species content (common and widespread species with minimal diversity) and associated management regime, where at the time of the survey the grassland was recorded as being a relatively short sward. Given the management regime employed on the modified grassland, as well as the species composition, it is considered unlikely that this faunal group would be present within this habitat.
However, the tree lines and bramble scrub provide sheltering and hibernation opportunities for reptiles. In any case, the tree lines are to be retained as part of the development proposals, albeit loss of bramble scrub to facilitate development.

Wider landscape
The nearby woodland is of elevated ecological value within the wider landscape and may represent important resources for local reptile populations. These adjacent habitats provide optimal foraging, commuting, and refuge opportunities for reptiles and are well-connected to further suitable habitat in the wider landscape. The presence of reptiles utilising these adjacent habitats cannot be discounted.

7.2 Foreseen Impacts

No impacts are anticipated on reptiles as a result of the proposed development due to no habitat being impacted.

7.3 Recommendations

No further reptile surveys required.

8. FAUNA: AMPHIBIANS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

8.1 Summary of Survey Findings

EPSL and survey data
Records within 2km are unknown without records from COFNOD.

The site is located in an area where no District Level Licensing scheme for GCN is available.

Aquatic habitat suitability (including ponds within 500m)
Great crested newts (GCN) exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001).

No ponds are present on site or have been identified within 500m of the site.

Terrestrial habitat suitability
Areas of shrubbery may provide foraging and sheltering opportunities for amphibians. No hibernation opportunities were identified on-site.

8.2 Foreseen Impacts

Given the lack of suitably connected breeding ponds within 500m of the site, the presence of GCN on-site is considered unlikely and therefore impacts to amphibians as a result of the proposed development are deemed to be acceptably low.

8.3 Recommendations

No further surveys required for amphibians.

9. FAUNA: RIPARIAN ANIMALS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

9.1 Summary of Survey Findings

Records within 2km are unknown without data from COFNOD.

Habitat suitability
There are no water courses on or connected to the site. There are also no riparian habitats present on site or within an influencing distance.

9.2 Foreseen Impacts

No impacts are anticipated on riparian animals as a result of the proposed development.

9.3 Recommendations

No further surveys for riparian animals required.

10. FAUNA: HAZEL DORMOUSE

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

10.1 Summary of Survey Findings

EPSL data and local records
Records within 2km are unknown without data from COFNOD.

Habitat suitability

Dormice typically utilise a three-dimensional habitat structure as to commute between feeding and breeding sites whilst avoiding predation. As such habitats on site are considered unsuitable for hazel dormice and therefore the likelihood of this species being present on site is considered acceptably low.

10.2 Foreseen Impacts

No impacts are anticipated on hazel dormice as a result of the proposed development.

10.3 Recommendations

No further hazel dormouse surveys required.

[redacted]

12. FAUNA: INVERTEBRATES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

12.1 Summary of Survey Findings

The habitats present on-site, likely provide common invertebrates with opportunities to forage and shelter. The site contains no further notable habitats which may provide niches for specialised or protected invertebrates.

12.2 Foreseen Impacts

None foreseen.

12.3 Recommendations

No further surveys.

13. FAUNA: OTHER NOTABLE SPECIES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

13.1 Summary of Survey Findings

Hedgehogs
The ruderal herb onsite provides limited foraging and commuting opportunities for hedgehogs, with woodland habitat nearby.

13.2 Foreseen Impacts

Hedgehogs

No impacts are anticipated on hedgehogs as a result of the proposed development.

13.3 Recommendations

Hedgehogs
None.

13.4 Suggested Biodiversity Enhancements

Hedgehogs
The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs:

- Creation of brash piles or installation of hedgehog houses in shady areas.
- Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.

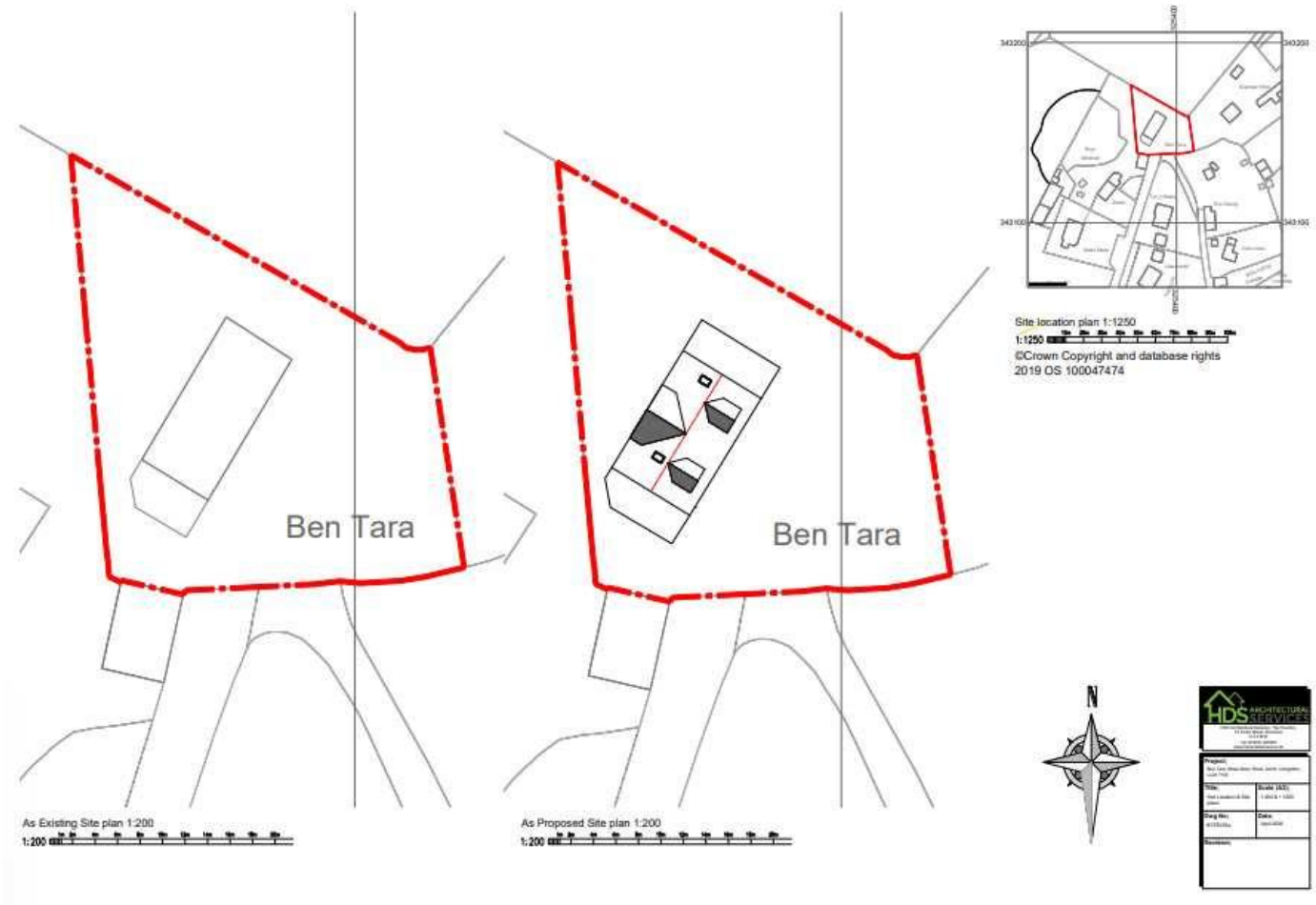
APPENDIX 1: SURVEY/HABITAT MAP



APPENDIX 2: LOCATION MAP



APPENDIX 3: PROPOSED PLAN



APPENDIX 4: HABITAT IMAGES



Modified grassland



Developed land; sealed surface



Non-native and ornamental hedgerow

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VERSION CONTROL

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