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Preliminary Ecological Appraisal and Roost Assessment

Survey site:

Cae Dewi Sant, Caego Wrexham LL11 6SL

Client:

[redacted]

Survey date:

19th August 2025

Project:

This report is prepared to inform a planning application with the Wrexham Council. The proposal is described as:

The construction of a bungalow

PEA survey methodology and legislation can be found in the Arbtech Supplement: PEA Methodology and Legislation - 2024.

PRA survey methodology and legislation can be found in the Arbtech Supplement: PRA Methodology and Legislation - 2024.

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion

Site Location and Context

The survey site is centred on National Grid Reference SJ 3150 9699 and has an ownership boundary area of approximately ~0.67ha with a surveyed area of ~0.05ha.

The site comprises stables and several horse grazed fields with hedgerow to the west and woodland to the north, east and south. It is situated within the outskirts of the town of Wrexham. Aerial imagery shows the local landscape to have a woodland character, with several small copses and woodland swathes in close proximity to the site. Such features likely enhance the area for a variety of species, including bats, amphibians and reptiles.

Survey Details

The site survey was undertaken by Kayleigh Davies BSc, MSc, Accredited on Natural Resources Wales Bat Licence (details on request.) and holder of Natural Resources Wales Level 1 Great Crested Newt License (details on request).

Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
19/08/2025	22	54	20	6	None

Executive Summary

- Precautionary working methods are recommended for mammals, amphibians, reptiles and birds.

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, and the known distribution of species as recovered during the searches of historical biological records.

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.

Ecological Survey Factor Conclusion, Impact or Recommendations	Detailed using desk study and site survey (carried out under good weather conditions). Any specific limitations noted within relevant section. This table 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.
Habitats and plants (see habitat map in appendix 1, location plan in appendix 2, proposal plan in appendix 3 and photos in appendix 4). **Botanical species are described with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).**	
Summary of Survey Findings	The site does not contain any habitats listed as a habitat of principal importance under Section 7 of the Environment (Wales) Act (2016). However the site also contains grassland which are of good quality and could be of value to local wildlife populations (as detailed in subsequent sections of this table). **On-site habitat descriptions** **g3c – Other neutral grassland** The other neutral grassland portion of the development boundary has a short grass length, with sections of bare ground due to vehicle damage. Species composition present includes perennial rye-grass (*Lolium perenne*) (D), common bent (*Agrostis capillaris*) (A), dandelion (*Taraxacum officinale* agg.) (F), ribwort plantain (*Plantago lanceolata*) (F), willowherb (*Epilobium* spp.) (O), nettle (*Urtica dioica*) (R) and curled dock (*Rumex crispus*) (R). No invasive plant species were observed. **h2a, 11– Native Hedgerow with trees** he hedgerow on the western boundary consists of hawthorn (*Crataegus monogyna*) (D), with field maple (*Acer campestre*) (A) and blackthorn (*Prunus spinosa*) (O). There are trees present within the hedgerow that consist of oak (*Quercus robur / Quercus petraea*) (D), sycamore (*Acer pseudoplatanus*) (R) and ash (*Fraxinus excelsior*) (R). The hedgerow is ~2 m tall and ~1.5 m in width. The hedgerow within the development boundary is in good condition with no observed gaps and subject to irregular management. The gap from the ground to the bottom of the hedgerow is ~10 cm. **h3h – Mixed scrub** The scrub within the development boundary is largely sparse, with clearings present throughout. Species present include common hogweed (*Heracleum sphondylium*) (D), willowherb (*Epilobium* spp.) (A), nettle (*Urtica dioica*) (F), butterbur (*Petasites hybridus*) (F), bramble (*Rubus fruticosus* agg.) (F), crab apple (*Malus sylvestris*) (O), fern (*Dryopteris* spp.) (R) and thistle (*Cirsium* spp.) (R). No invasive species were observed within the scrub. The crab apple trees present are saplings, and the remainder of the vegetation is relatively young, with areas of bare ground present in the centre of the patch.

	The remainder of the ownership boundary consists of further horse grazed fields and scattered scrub with scattered trees. **Local notable habitats** Habitats within 2km are unknown without biological record data from COFNOD. However the site is surrounded by woodland on the south, east and northern boundaries which is likely to be of note.
Foreseen Impacts	**On-site habitats** The proposed development will result in the loss of scrub and grassland. This is likely to have a minimal impact on biodiversity due to the low ecological value of these habitats. **Notable habitats** No direct impacts to any notable habitats will occur as a result of the proposed development. However, due to the proximity of the site to unknown notable habitats, indirect effects (e.g. pollution, dust, litter, surface run off, etc.) could occur during construction.
Recommendations	**On-site habitats** Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012). **Notable habitats** Best practice measures to minimise the possibility of pollution affecting the nearby woodland must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this. **Green Infrastructure Assessment** Planning Policy Wales (2024) requires all developments within Wales to conduct a Green Infrastructure Assessment to deliver Net Biodiversity Benefit and maintain biodiversity during development. Therefore, the planning application must be accompanied by a Green Infrastructure Statement to detail how the site is maintaining biodiversity and include recommendations to further enhance the site biodiversity.
Locality and Designated Sites	
Summary of Survey Findings	**On-site designations** The site is not subject to any designation.

	Statutory designated sites (within 2km) There is 1 statutory site within 2km of the site, as detailed below: • Gatewen Marsh (SSSI – Site of Special Scientific Interest) - ~295m north - *The site occupies the flat valley bottom of a tributary of the River Gwenfro, the stream running through the eastern side of the marsh. At its northern end the marsh is bounded by the spoil banks of the former Gatewen Colliery, and mining subsidence.* **Non-statutory designated sites** The presence of non-statutory designated sites within 2km of the site cannot be established without data from COFNOD.
Foreseen Impacts	**On-site designations** No impacts foreseen. **Statutory and non-statutory designated sites** No direct impacts to any designated sites will occur as a result of the proposed development. However, due to the proximity of the site to possible presence of non-statutory designations in the vicinity, indirect effects such as pollution or tree damage could occur during construction.
Recommendations	**On-site designations** None required. **Statutory and non-statutory designated sites** None required.
Invasive / Non-native species	
Summary of Survey Findings	No problematic invasive and non-native species recorded on site.
Foreseen Impacts	N/A
Recommendations	No further surveys but remain vigilant.
Invertebrates	

Summary of Survey Findings	The habitats present on-site, including hedgerow and scrub, 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.
Foreseen Impacts	Scrub and other neutral grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally.
Recommendations	No further surveys. **Suggested biodiversity enhancements** The incorporation of bee bricks (e.g. Ibstock BeeHabitat or similar alternative brand) into the fabric of the new buildings would provide sheltering opportunities for pollinators. These should be installed 0.5m above ground level on a south-facing elevation with no obscuring vegetation. Insect hotels, log piles or deadwood will further enhance the site for invertebrates. The site could be further enhanced via the provision of native wildflowers or wildflower turf, which would provide foraging opportunities for invertebrates.
Bats	
Summary of Survey Findings	**EPSL data** Records of bats within 2km of the site boundary is unknown without records from COFNOD. **Foraging and commuting habitat** Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of grassland, scattered scrub, and hedgerow with trees. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations. Most notably, the hedgerows on site are mature and extend beyond the site adding to the continuity of vegetated linear features present in the wider landscape. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites. **Roosting habitat** Buildings and trees to be impacted by the proposed development are assessed for their suitability to support roosting bats below. There are a total of 2 buildings on site; the main barn (B1), and stables (B2). No trees within the development boundary.
B1 Building description	***Photographs***

Summary B1 is a single storey barn with a vaulted ceiling. The walls are constructed of cinderblock and wood. The roof is metal. No cracks or crevices were observed on the roof or walls externally. However there is a gap above the door on the eastern elevation and some small crevices within the walls that would allow ingress for bats into the building. The building has **low habitat value**.	
B2 Building description	***Photographs***
Summary B2 is a single storey stable block, with wooden walls and a metal roof. The doors on the southern elevation has open top portion which allows ingress into the building. No observed cracks or crevices within the walls or roof. But the open doors allow ingress for bats. The building has **low habitat value**.	
Foreseen Impacts	**Roosting habitat [Buildings]** The proposed development will not affect any of the buildings that could be used by roosting bats and therefore no impacts to bat roosts are anticipated. **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.
Recommendations	**Roosting habitat [Buildings]** No further surveys. **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/our-work/buildings-planning-and-development/lighting-2 **Suggested biodiversity enhancements** The installation of two bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be incorporated into the fabric of the new dwelling. They will be suitable for pipistrelles (which have been identified locally through EPSL data). 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.
Birds	
Summary of Survey Findings	**Trees and vegetation** No bird nests were identified within the vegetation on-site, however they all offer nesting opportunities and nest-building resources for birds.

	Barn owls The site does not appear to provide any suitable nesting sites for barn owls. **Overwintering birds** Due to the small size of the site and the extent and type of the habitats recorded, the site not considered suitable to support a significant assemblage of protected and/or notable birds.
Foreseen Impacts	**Vegetation** The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests. **Barn owls** None foreseen. **Overwintering birds** None foreseen.
Recommendations	**Vegetation** Any vegetation removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by a qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged. Precautions should be taken with machinery and noise levels when working close to any retained nests so as not to disturb any nearby nesting birds during construction works. At least a 3-5m buffer should be created between any machinery and active nests until the young have fledged. **Barn owls** None required. **Overwintering birds** None required. **Suggested biodiversity enhancements** The installation of a minimum of two bird boxes on mature trees around the site boundaries or 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.
Reptiles	
Summary of Survey Findings	**EPSL data** A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. **Habitat suitability** The dominant habitat onsite (other neutral 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 grassland, as well as the species composition, it is considered unlikely that this faunal group would be present within this habitat. However, the scrub and hedgerow provide sheltering opportunities for reptiles. In any case, the hedgerow is expected to be retained as part of the development proposals, albeit loss of scrub to facilitate development. **Wider landscape** The site is surrounded by woodland which is of elevated ecological value for reptiles. The site is further surrounded by roads to the north, east and south of the site. The grassland to the west of the site provides further foraging habitat for reptiles. However, beyond this grassland is commercial buildings and residential homes and therefore, there is not further connectivity to further habitats.
Foreseen Impacts	Although a small area of suitable habitat is being removed as part of the development, there is a low risk that a low number of reptiles could be present in the vicinity of the works. These could be injured or killed without mitigation.

	The site does not form a connective pathway or stepping stone between areas of suitable reptile habitat in the wider landscape and the development is unlikely to lead to reptile habitat fragmentation.
Recommendations	A precautionary working method will be implemented for widespread reptiles during construction, including the following measures: • Vegetation will be maintained at a short sward (5cm) to discourage reptiles. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any reptiles are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a reptile is identified, works must cease and advise must be sought from a suitably qualified ecologist. **Suggested biodiversity enhancements** The site could be enhanced for reptiles post-development with the inclusion of log piles (created from felled materials) and planting of areas of native shrubs, to provide sheltering opportunities.
Amphibians	
Summary of Survey Findings	**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). There are no ponds onsite. A review of the Magic.gov.uk database and aerial imagery indicates that there is one pond within 500m of the site, which is located ~370m northeast. This pond is assessed to have limited connectivity due to separation by extensive areas of suboptimal habitat including intensely managed agricultural land in addition to tarmac roads. These landscape features combined are assessed to represent a significant barrier to dispersal limiting access from these ponds to the site for great crested newts. **Terrestrial habitat suitability** Areas of shrubbery may provide foraging and sheltering opportunities for amphibians. No hibernation opportunities were identified on-site.

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.
Recommendations	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures: • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advise must be sought from a suitably qualified ecologist. **Suggested biodiversity enhancements** The site could be enhanced for amphibians post-development through creation of amphibian hibernacula using rubble and logs from site clearance. Information on how to construct a hibernaculum can be found here: https://www.wiltshirewildlife.org/hibernaculum
Badger	
Summary of Survey Findings	No badger setts were noted on site or within a 30m radius of the site. Further, no evidence of foraging badgers was noted within the development area.
Foreseen Impacts	No works will be undertaken within 30m of a badger sett. Scrub and grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local badger populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of badgers, if present.

Recommendations	Owing to the nature of the proposed development and the low potential for impacts to badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of badgers at the site. • A pre-commencement inspection of the site will be undertaken for any new badger activity if works do not commence within three months. • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where badger setts could be present. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that a badger sett is identified, works must cease and advise must be sought from a suitably qualified ecologist. **Suggested biodiversity enhancements** Planting fruit bearing trees and species-rich grassland to increase foraging opportunities for badgers.
Riparian animals	
Summary of Survey Findings	A review of the MAGIC database returned no granted EPSL records for otters or water voles within 2km of the site. 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.
Foreseen Impacts	No impacts are anticipated on riparian animals as a result of the proposed development.
Recommendations	None required.
Hazel dormouse	
Summary of Survey Findings	**EPSL data** A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site.

	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.
Foreseen Impacts	No impacts are anticipated on hazel dormice as a result of the proposed development.
Recommendations	None foreseen.
Other e.g. hedgehog	
Summary of Survey Findings	The scrub, hedgerow and grassland onsite provides limited foraging and commuting opportunities for hedgehogs, with woodland habitat nearby.
Foreseen Impacts	Scrub and grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.
Recommendations	Similar to the badgers, a precautionary working method will be implemented during construction, including the following measures: • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. **Suggested biodiversity enhancements** The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: • Planting species-rich grassland to increase foraging opportunities. • 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: PEAPRA Map



Appendix 2: Location map



Appendix 3: Proposed plan



Appendix 4: Habitat Photos

Other neutral grassland	
Photograph	**Description**
	Fig 1 – the other neutral grassland onsite.
Mixed scrub	
Photograph	**Description**
	Fig 2 – mixed scrub onsite.
Native hedgerow	

Photograph	Description
	Fig 3 – the hedgerow to the west of the site.

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