NORTH - SOUTH ECOLOGY



Erddig Hall Restaurant National Trust, Wrexham

Preliminary Roost Assessment

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The results of this survey are considered valid for a period of 18 months.
Recommendations provided are based on the understanding of the works at the time of writing. Should the scope of works change, advice from an ecologist should be sought.

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Executive Summary

North-South Ecology Ltd was commissioned by the National Trust to undertake a Preliminary Roost Assessment (PRA) of the restaurant building at Erddig Hall, located in Wrexham, North Wales (LL13 0YT).

The proposed works involve the replacement of fifteen roof lights and the complete removal of an additional four roof lights. The restaurant occupies a former haybarn that has undergone several changes of use over the centuries including stables, storage and cart sheds. Today the barn supports a restaurant in daily use by visitors.

No evidence of bats was observed during the current survey however the building was assessed as having high suitability to support roosting bats due to the number and quality of features present. The building has potential to support summer roosting bats and non classic hibernation roosts. The building also has potential to support nesting birds.

Further surveys are required to confirm the presence or likely absence of bat roosts. Up to three emergence surveys in line with the BCT guidance are needed, to be undertaken during the bat maternity season (May to September). These surveys should be spaced at least three weeks apart.

Bats and their roosts are protected by law. Should bats be confirmed as roosting within the roof space, it is likely that a bat derogation licence will be required from Natural Resources Wales (NRW) before any works can proceed.

Nesting birds are protected by law. Works should be timed to avoid the nesting bird season (Nesting bird season: March to August inclusive) to minimise the risk of disturbing nesting birds.

1 Introduction

North-South Ecology Ltd was commissioned by the National Trust to undertake a Preliminary Roost Assessment (PRA) of the restaurant building at Erddig Hall, located in Wrexham, North Wales (LL13 0YT) (**Plan 1**).

1.1 Proposed Works

The proposed works comprise the replacement of fifteen roof lights and the complete removal of a further four. To facilitate these works, it is anticipated that scaffolding will be erected along the western elevation to provide access to the western roof pitch, where the roof lights are located.

Removal of the existing roof lights will require the temporary removal of surrounding roof slates/tiles and associated lead flashing. Some alterations to roof timbers may also be necessary, particularly where structural elements are found to be damaged or defective. Areas where roof lights are to be permanently removed will be reinstated with matching roof slates to maintain continuity with the existing roof design.

1.2 Site Context

The restaurant building surveyed is a Grade II listed building attached to the south side of the stable block at Erddig hall and forming the western range of the outer yard, to the south of the house. The building is situated within the Erddig estate within the county of Wrexham, North Wales LL13 0YT. The site is centered at grid reference: SJ 32600 48126.

Erddig Hall is a Grade I listed country house dating back to the late 1600s, with major additions made in the early 18th century. The buildings forming the laundry and stable complex including the restaurant are Grade II listed. Today the estate is owned and managed by the National Trust and is a popular visitor attraction offering insight into Georgian life and receiving large volumes of visitors each year. The estate is located just south west of the outer peripheries of Wrexham city. In the wider estate formal gardens, parkland and woodland occur. The surrounding area is predominantly rural, with pasturelands delineated by networks of hedgerows and blocks of woodland.

1.3 Legislation

1.3.1 Bats

All bat species are afforded legal protection under the EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (92/43/EEC; the 'Habitats Directive'), implemented in the UK via the Conservation of Habitats & Species Regulations (2017) (the 'Habitats Regulations') (EU Exit 2019) and

under the amended Wildlife & Countryside Act (1981). This protection extends to their roosting places, which are protected regardless of whether a bat is present at the time or not.

The above legislation make it an offence to:

- Kill, injure or capture a bat;
- Obstruct, damage or destroy a resting place or breeding place used by bats; and
- Disturb a bat while it is in a structure or place of shelter or protection.

Offences can result in an unlimited fine or six-month prison sentence.

Additional protection is afforded under the Habitats Regulations for bat species listed on Annex II of the Act.

1.3.2 Nesting Birds

Nesting birds are protected under the amended Wildlife & Countryside Act (1981). Their nests, eggs and young are also afforded protection under the Wildlife and Countryside Act making it an offence to:

- Kill, injure or take wild birds;
- Take, damage or destroy a wild bird's nest while in use or whilst being built; and
- Take or destroy a wild bird's egg.

Species listed on Schedule 1 of the Act benefit from additional protections, making it an offence to:

- Disturb them while nesting, building a nest, or whilst in or near a nest that contains their young; and
- Disturb dependent young.

2 Methodology

2.1 Desk Study

A review of previous survey reports for the estate was undertaken along with a search for biological records undertaken with the local biological records centre (COFNOD). All records relating to bat and bird species within a 2km radius of the site were sought. The data search was undertaken on the 10th September 2025 (Ref no CO/E14249).

2.2 Preliminary Roost Assessment

A Preliminary Roost Assessment (PRA) of the building was undertaken on 13 October 2025 by two experienced, NRW-licensed bat ecologists under favourable weather conditions.

Both internal and external inspections were completed. The external elevations were examined for potential bat access points and roosting features such as lifted or missing roof tiles, raised fascia boards, gaps above doors, or broken windows. Where access allowed, the interior of the building was also inspected for similar potential roosting opportunities.

During both internal and external surveys, the ecologists searched for evidence of bat activity, including droppings, feeding remains, and live or dead bats.

An aerial survey of the roof was also undertaken using a DJI Mini 3 drone to identify potential access points and to detect any external evidence of bat activity, such as droppings.

In addition to recording any direct or indirect evidence of bat presence, the survey included an assessment of roosting suitability, following the categories set out in the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2023). Details of the suitability assessment are provided in Table 1 below.

Table 1: Bat roost potential categories of buildings used during ground assessments (Adapted from Collins, 2023)

Suitability Category	Description
High	A structure with one or more potential roost sites that are obviously suitable for use by large numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts.

Suitability Category	Description
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but, unlikely to support a roost of high conservation status.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and / or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or classic hibernation).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however a small level of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
None	No habitat features on site likely to be used by any roosting bats at any time of year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).

2.3 Constraints

Due to the roof void being used as part of the restaurant and the presence of vaulted ceilings, it was not possible to inspect internally the areas most likely to be affected by the proposed works, nor those with the highest potential to support roosting bats.

This survey was undertaken outside the nesting bird season; therefore, evidence of nesting birds within the building may have been missed. However, a precautionary approach to the proposed works is recommended, given the potential for the building to support nesting birds.

The survey represents a snapshot in time and does not provide an exhaustive list of species within/using the site.

The behaviour of animals can be unpredictable and may not conform to standard patterns recorded in scientific literature. Therefore, this report cannot predict with absolute certainty that animal species will occur in apparently suitable locations or habitats or that they will not occur in locations or habitat that appear unsuitable.

3 Results

3.1 Desk Study

3.1.1 Previous Surveys

Previous surveys by Star Ecology in 2023 found main hall and laundry/ stable buildings adjacent to the restaurant to support maternity roosts of brown long eared bats (*Plecotus auritus*), night roosts of lesser horseshoe bat (*Rhinolophus hipposideros)* and day/possible night roosts of pipistrelle species (*Pipistrellus* sp). No previous surveys have been undertaken within the restaurant building.

3.1.2 Biological Records Search

The desk study returned over 13,000 species records within a 2 km radius of the site. These records span multiple years and include a wide variety of taxa, notably several rare and Annex II-listed bat species such as the lesser horseshoe bat (*Rhinolophus hipposideros*).

Many records relate directly to the site itself, with several noteworthy bat species recorded from Erddig Hall and the immediate surroundings.

3.1.3 Bat Records

The data search returned the following key records for bats:

- Natterer's bat (*Myotis nattereri*) – Recorded roosting inside The Lodge (on-site) in 2009.
- Soprano pipistrelle (*Pipistrellus pygmaeus*) – Observed entering a tree roost on the estate in 2019.
- Common pipistrelle roost – 27 individuals recorded at Ffordd Glyn in 1993.
- Brandt's bat (*Myotis brandtii*) – Activity records within the 2 km radius.
- Daubenton's bat (*Myotis daubentonii*) – Activity records within the 2 km radius.
- Whiskered bat (*Myotis mystacinus*) – Activity records within the 2 km radius.
- Noctule (*Nyctalus noctula*) – Activity records within the 2 km radius.
- Lesser horseshoe bat– Activity records within the 2 km radius.
- Myotis species (unidentified) – Activity records within the 2 km radius.

3.1.4 Bird Records

The desk study also identified numerous bird records within a 2 km radius of Erddig Hall, representing a range of both common and notable species. Species recorded from the site and surrounding area include (but are not limited to) the following:

- Mallard (*Anas platyrhynchos*)
- Rook (*Corvus frugilegus*)
- Whitethroat (*Curruca communis*)
- Magpie (*Pica pica*)
- Black-headed gull (*Chroicocephalus ridibundus*)
- Red kite (*Milvus milvus*) – Schedule 1-listed species
- Cetti's warbler (*Cettia cetti*) – Schedule 1-listed species

3.2 Building Description

The former haybarn is believed to date back to the late eighteenth or early nineteenth century. The building was subsequently altered during the nineteenth century to provide storage and cart sheds, before partial conversion to a shop and café during the late twentieth century.

The single story building is constructed of brick with a slate roof hipped to the south, the building displays a dentil eaves cornice typical of the period. The eastern elevation, facing the yard, contains tall arched openings with timber boarding and fitted with timber doors to form either cartsheds or the entrance to the shop and café. The western elevation retains evidence of infilled brick arches, as well as 21 traditional ventilation openings, each formed by the omission of 16 bricks arranged in a diamond pattern (**Photos 1 & 2**).

Internally, the structure retains a series of closely set king-post trusses supporting the roof. The interior now features vaulted ceilings associated with its current use as a restaurant.



Photo 1: Restaurant building western elevation



Photo 2: Restaurant building western elevation



Photo 3: Restaurant and surrounding buildings

3.3 Building inspection

A drone survey looked to assess and identify potential bat access points along the roof. Multiple lifted tiles were observed across the roof elevations as well as gaps under ridge tiles. Potential bat access points were present around most of the roof lights under lead flashing and gaps under tiles.



Photo 4: Roof of restaurant building



Photo 5: south western portion fo restaurant roof



Photo 6: Western roof elevation



Photo 7: Northern portion of restaurant roof

The western elevation contains a total of 21 traditional ventilation openings, each formed by the omission of 16 bricks arranged in a diamond pattern. These apertures were historically designed to provide airflow

through the structure. Although the openings have been boarded or glazed internally, they offer potential access points for bats, providing possible access to internal wall cavities that could provide suitable roosting opportunities.

3.4 Roosting suitability assessment

The building has high suitability for summer bat roosting by crevice dwelling bat species**.** This assessment is based on the following factors:

- High-quality surrounding habitat**,** with woodland located approximately 10 m to the west that connects to a small river and extends into the wider landscape through a network of woodlands, waterbodies, and grazed agricultural land;
- Building age and construction typical of those frequently utilised by maternity roosts;
- Numerous access points within the roof structure, providing suitable entry features for crevice-dwelling bat species to access roof voids;
- Vaulted ceiling within the restaurant area, likely to create a suitable void capable of supporting larger numbers of roosting bats; and
- Favourable thermal conditions on the western roof pitch, enhanced by heat generated from the restaurant below, which may provide an environment preferred by maternity colonies that favour warmer roosting conditions.

The building has been assessed as having non-classic hibernation suitability[1]**.** This assessment is based on the following factors:

- Access into wall cavities, known non-classic hibernation features, through ventilation holes on the western wall;
- High quality habitat surrounding the building;
- Known bat roosts close by within budlings adjacent and close to the one in question; and
- The lack of areas offering suitable hibernation roosting for larger numbers of bats.

[1] Non-classic hibernation sites are site lacking classic cool, stable conditions associated with underground hibernacula (e.g. caves, cellars, tunnels), but where bats may still hibernate or enter torpor such as wall cavities, roof voids or gaps between tiles. These sites can be difficult to detect using standard survey methods and are frequently associated with, or located close to, summer roosting areas due to similar environmental conditions (Collins, 2023).

3.5 Nesting Birds

No evidence of nesting birds was recorded during the building inspection; however, the survey was undertaken outside the nesting bird season. The building is considered to have suitable features and a high likelihood of supporting nesting birds, given its construction, condition, and location.

4 Impact Assessment

The proposed works comprise the replacement of fifteen roof lights and the complete removal of a further four. To facilitate these works, it is anticipated that scaffolding will be erected along the western elevation to provide access to the western roof pitch, where the roof lights are located.

The building is considered to have high suitability for bat roosting meaning it has the potential to support a roost of high conservation value during the active bat season (i.e. maternity roost). Due to the possible access to cavity walls through the missing ventilation bricks, the building is also considered to have potential to support a "non-classic" hibernation roost.

Further emergence surveys during the bat maternity season are required to fully assess the potential impacts of the proposed works.

In the absence of appropriate mitigation or compensation measures, bats roosting within the roof area, particularly in proximity to the roof lights, could be at risk of harm, and their roost sites may be subject to loss or damage.

Nesting birds are also likely use the building. In the absence of mitigation the works could have a negative impact on nesting birds at the site level.

Further surveys are required. Recommendations are made to minimise any negative impacts associated with the planned works, see Section 5.

5 Recommendations

5.1 Bats

Given that the building has been assessed as having high suitability for summer bat roosting, further emergence surveys are recommended to confirm the presence or likely absence of roosting bats. These surveys will inform whether a derogation licence from Natural Resources Wales (NRW) is required to undertake the proposed works lawfully and to determine the appropriate scheme of mitigation and compensation measures, if necessary.

In accordance with Bat Conservation Trust Good Practice Guidelines (Collins, 2023), up to three emergence/re-entry surveys are required to confirm the presence or likely absence of a maternity roost in a building assessed as having high suitability. Surveys should be undertaken between May and September, with at least two surveys conducted between May and August (inclusive) to provide sufficient coverage of the maternity season.

Surveys must be spaced a minimum of three weeks apart to account for variations in bat behaviour and roost use. Each survey should commence 15 minutes before sunset and continue for at least 1.5 hours after sunset, with surveyors situated to cover all potential access points for the full duration using appropriate night-vision equipment (e.g. thermal or infrared cameras) and bat detectors.

Once the further surveys have been completed, an updated report should be produced outlining the necessary measures required to undertake the proposed works lawfully.

5.2 Birds

As the building is considered likely to support nesting birds, works should be timed to avoid the nesting bird season (March to August, inclusive). If it is not possible to avoid this period, a nesting bird survey should be undertaken immediately prior to works to confirm the absence of active nests.

If active nests are identified, no works should be undertaken within a minimum of 5 meters of the nest, and activities in these areas must be delayed until the young have fledged and the nest is no longer in use.

Appropriate compensation measures should also be implemented to provide continued nesting opportunities for birds once the works are complete.

6 References

Collins, J. (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th ed.). London: Bat Conservation Trust.

Star Ecology (2023) *Internal Inspections for bat: Erddig Hall Roof-Spaces.* Unpublished report.

Plan 1: Site Location

