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Erddig Hall National Trust, Wrexham

Bat & Nesting Bird Survey Report

August 2026

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2	10th April 2026	Further PRA results added for outbuildings (Carpentry shop and metal workshop)	Jessica Dangerfield	Hal Starkie	Jessica Dangerfield
3	13th August 2026	Further results added for detailed bat surveys	Jessica Dangerfield	Hal Starkie	Jessica Dangerfield

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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 an update bat and nesting bird assessment of Erddig Hall and the adjoining laundry and stable complex. Erddig Hall is located within the county of Wrexham, North Wales, LL13 0YT.

At the time of writing, the proposed works comprise a series of fire saftey works. These will include fire alarm testing, installation of boarding to enable access in loft voids, compartmentalisation works, door upgrade and replacement throughout, creation of a temporary welfare facility, creation of a joinery workshop in the sawmill and creation of a blacksmith workshop in the historic blacksmith workshop. The adjoining restaurant building requires the removal of several faulty skylights that are allowing water ingress to the building interior.

Erddig hall is a Grade I listed property dating back to the 1600s, set within the wider Erddig estate comprising formal gardens and parkland. The laundry and stable complex of buildings immediately south of the hall comprise Grade II listed buildings dating back to the 1700s. Today the site is owned and managed by the National Trust and is open to visitors on a daily basis throughout the year. The site is centered at grid reference: SJ 32599 48199.

The buildings are confirmed bat roosts having been subject to previous surveys by Star Ecology in 2023. Three daytime visits were made by Star Ecology to inspect loft voids within the main hall and the laundry/stable complex between April and August 2023. Maternity roosts of brown long-eared bats were found using two lofts in the hall and using two lofts above the laundry/stable complex. Night roosts of lesser horseshoe bat and day/possible night roosts of pipistrelle species were also reported.

During the current surveys, the following roosts were found across the lofts of the hall and stable complex buildings: Brown long-eared and small myotis species (likely Brandt's) maternity, day and night roosts, common pipistrelle day and night roosts, lesser horseshoe bat night roost. The rooms of the ground, first and second floors of the building are considered largely unsuitable for roosting bats as there is limited access to the room interiors, and the rooms are well lit and in daily use by visitors and staff. No evidence of roosting bats was observed in the adjoining restaurant roof.

The buildings also support nesting birds, including nesting barn swallows.

A NRW mitigation licence will be required to undertake works affecting the lofts of the hall and stable/laundry complex. It is considered that any potential impacts will be readily amenable to mitigation measures. Recommendations are provided in Section 6 to minimise the impact to bats and nesting birds.

1 Introduction

North-South Ecology Ltd was commissioned by the National Trust to undertake an update bat and nesting bird assessment of Erddig Hall and the adjoining laundry and stables complex. Erddig Hall is located in Erddig in the county of Wrexham, LL13 0YT (See **Plan 1**).

1.1 Proposed Works

The National Trust are looking to undertake a series of fire safety works to safeguard the historic house and associated stable and laundry buildings in the event of a fire. The current scope of works proposed include fire alarm testing, installation of boarding to enable access in loft voids, compartmentalisation works, door upgrade and replacement throughout, creation of a temporary welfare facility, creation of a joinery workshop in the sawmill and creation of blacksmith workshop within the historic blacksmith workshop.

In the mansion house minor works to seal some gaps between lofts are needed along with reinstating rock wool in some areas. Some works to the third floor publicly accessible areas are also required such as upgrading and/or replacing doors to make them fire safe.

The stable and laundry block require a more extensive scheme of works including improvements to walkways and compartmentalisation. Detailed plans for the stable and laundry block are not available at the time of writing. During the initial site visit some loft voids were inaccessible and access enabling works were required to permit surveys (e.g. fire saftey, asbestos, R&D surveys) in these areas. These were completed in spring 2026. At the time of writing a comprehensive, detailed scope of works are not yet available.

The adjoining restaurant requires works to remove several skylights from the western elevation of the roof. Currently the skylights are allowing water ingress to the restaurant interior and require removal to make the roof water tight. Current plans propose the removal of the skylights and replacement with slate tiles in their place.

1.2 Site Context

The buildings surveyed as part of the current report include the Erddig hall house along with a complex of buildings forming the kitchen, laundry and stables that adjoin Erddig hall to its immediate south along with the restaurant, carpentry and blacksmith workshops all located to the south of the hall. The buildings are situated within the Erddig estate within the county of Wrexham, North Wales, LL13 0YT. The site is centered at grid reference: SJ 32599 48199.

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 are Grade II listed. Today the site is owned and managed by the National Trust and is a popular visitor attraction 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

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.

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 (Provided by the National Trust) for the site 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). The online application: Magic Maps was also used to search for any statutory designated sites for bats within a 2km radius of the Site.

2.2 Preliminary Roost Assessment

A Preliminary Roost Assessment (PRA) was undertaken on the building by two experienced and Natural Resources Wales (NRW) licensed bat ecologists on the 13th October 2025 in good weather conditions. A further visit to inspect the loft voids of the stable/laundry complex took place following access enabling works along with a PRA survey of the carpentry shop and metal shop on the 23rd March 2026.

An internal and external inspection of the building was undertaken. External elevations were inspected for potential access points and roosting areas that could be used by bats, i.e. lifted or missing tiles, raised fascia boards, gaps above doors or broken windows etc. Where possible, the buildings were then inspected internally, a search was made for potential access points and roosting areas that could be used by bats. During the external and internal inspections evidence of bats was also searched for, such as droppings, feeding remains, live or dead bats etc. The roof of the hall was inspected additionally by accessing the roof directly.

An aerial survey of the roof was undertaken using a drone (DJI Mini 3) to determine access points and to observe any evidence of use such as droppings on the building exterior.

In addition to recording any evidence of bat use within the property, an estimate of roosting suitability was made using the categories set out by national guidance: BCT Bat Surveys for Professional Ecologist – Good Practice Guidelines (Collins et al, 2023) See **Table 1** below for details.

Table 1: Bat Roost Potential Categories (Adapted from Collins, 2023)

Suitability Category	Description
Confirmed roost	Bat roost confirmed.
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.
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).

Suitability Category	Description
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 Emergence Surveys

A suite of three emergence surveys were undertaken on the hall and associated stable/laundry complex (including the adjoining restaurant, spaced at least three weeks apart between May and July 2026. Three dusk emergence surveys were undertaken in accordance with current Bat Conservation Trust (BCT) guidance for bat surveys. Emergence surveys were not undertaken on the carpentry or metal workshop.

Each survey commenced approximately 15 minutes before sunset and continued for at least 1.5 hours after sunset. Surveyors were positioned to cover elevations of the building throughout the survey period. Several unmanned night vision aids (NVA) and bat detector set ups were also utilised to provide additional coverage. Surveyors were each equipped with night vision cameras (Guide TK612, Pixfra A613, Nightfox Nova, Nightfox Whisker, Canon XA10, Canon XA60). Where infrared cameras were used, these were supplemented with separate infrared floodlights on the ground, in line with the current BCT guidance on NVA use (BCT, 2026). Footage was later analysed using VLC player. Full spectrum recording bat detectors (Peersonic RPA3, EMT2 Pro, Batlogger M2, Anabat Scout) were used. Acoustic recordings were later analysed using Kaleidoscope software.

Experienced surveyors were used with a minimum of at least two bat licenced ecologists present on each survey.

2.4 Thermal Imaging Drone Surveys

Thermal imaging drone surveys were undertaken on the hall and associated laundry/stables complex, using a DJI Matrice 4T unmanned aerial vehicle (UAV) fitted with an integrated thermal imaging camera. Recording commenced approximately 10 minutes after sunset, allowing sufficient time to avoid battery replacement during the peak emergence period when bats are most likely to leave roosts.

Thermal imagery was recorded in white hot for the first survey and black hot mode for the subsequent two surveys. Footage was recorded for later analysis. Recorded footage was analysed using Wildlife Imaging Systems software and manually reviewed by experienced ecologists to verify any potential bat emergences, distinguish bats from other wildlife and confirm the locations of any roost exit points identified during the surveys.

2.5 Static Detector and Loft Inspection Surveys

To supplement the emergence surveys, static bat detectors were deployed within some of the loft spaces, throughout the survey period. Song Meter Mini Bat and SM5 bat detectors were utilised, with detectors configured to record continuously (24 hours per day). Acoustic data were recorded for detailed analysis using Kaleidoscope software.

The use of static detectors enabled the collection of long-term acoustic data throughout the survey period, increasing the likelihood of detecting roosting bats that may not have been observed during attended surveys and providing additional information on species presence and patterns of activity within the buildings.

During each survey visit, internal inspections of the loft spaces were also undertaken by experienced and bat licenced ecologists. Loft voids were systematically searched using high-powered torches (Fenix HM61R V3.0 Headlamp) for bats roosting in situ and for any evidence of bat occupation, including droppings, feeding remains, staining, feeding remains and other characteristic field signs.

2.6 Limitations

Owing to saftey considerations, not every part of the lofts could be thoroughly searched on the first site visit. Particularly in the laundry/stable complex buildings, many of the loft voids were not stable enough to support weight. Therefore, lofts 14, 16, 19, 22 and 23 (**Plan 2**) were viewed from the hatch only and were not entered. Some of the lofts could not be entered or viewed at all because of the location of the loft hatches above visitor displays that could not be moved, therefore lofts 11, 12, 13, 15, 20 (**Plan 2**) were not viewed or searched. Loft 9 (**Plan 2**) of the main house also was not searched owing to an active wasp nest near the hatch that were very active in the loft space on the day of the initial PRA survey. Many of these lofts were accessed at later dates when displays were moved and when access had been made safe, therefore this is not considered a significant constraint.

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

Security lighting impacted some of the survey work in particular, a security light on the eastern aspect of the stables complex, impacted the view of the surveyor and the night vision camera during the first emergence survey. The surveyor moved the equipment and their position part way through the survey to account for this.

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.

Owing to the size and complexity of the buildings all ground-based surveys were somewhat limited in the coverage and views that could be seen from the ground. To address this, the surveys were supplemented with the use of a thermal imaging drone and further surveys using static detectors in loft spaces and internal loft inspections. Where emergence surveys detected bats exiting the building using the UAV, the data on the closest bat detector at the time of emergence was cross referenced to determine species. However, in some instances this was instead inferred with the aid of other survey type results owing to the quiet calls of species like brown long-eared bats being unlikely to be picked up by ground-based detectors (given the height of the roof).

3 Results

3.1 Desk Study

Previous Surveys

Three daytime visits were made to inspect loft voids within the main hall and the laundry/stable complex between April and August 2023 (Star Ecology, 2023). Maternity roosts of brown long-eared bats (*Plecotus auritus*) were found in two lofts in the hall (Lofts 7 and 9, see **Plan 2**) and two lofts above the laundry/stable complex (Lofts 13 and 14, see **Plan 2**). Night roosts of lesser horseshoe bat (*Rhinolophus hipposideros)* and day/possible night roosts of pipistrelle species (*Pipistrellu*s sp.) were also recorded.

Biological Records Search

The desk study returned over 13,000 records within a 2 km radius of the site. These records span multiple years and relate to multiple different species including some rare and Annexe II listed bat species such as the lesser horseshoe bat.

Many records returned relate to the site itself, the dataset includes a record for inside a building called the lodge for Natterer's bat (*Myotis nattereri*) in 2009, a record for a soprano pipistrelle (*Pipistrellus pygmaeus*) entering a tree roost in 2019. There are historic records for common pipistrelle (*Pipistrellus pipistrellus*) dating bat to 1987 and brown long-eared at Erddig Hall. Activity records for Brandt's bat (*Myotis brandtii*), Daubenton's bat (*Myotis daubentonii*), whiskered bat (*Myotis mystacinus*), noctule bat (*Nyctalus noctula*), common pipistrelle, soprano pipistrelle, brown long-eared bat, lesser horseshoe bat, and *Myotis* species. A roost record for 27 common pipistrelles was returned from "Fford glyn" in 1993.

The desk study returned many bird records within a 2km radius of Erddig Hall, representing a range of common and notable species. Species recorded from the site include mallard (*Anas platyrhynchos*), rook (*Corvus frugilegus*), white throat (*Curruca communis*), magpie (Pica pica), black headed gull (*Chroicocephalus ridibundus*) amongst others along with Schedule 1 listed red kite (*Milvus milvus*) and Cetti's warbler (*Cettia cetti*), amongst others.

Designated Sites

No statutory designated sites for bats were found within 2km of the site.

3.2 Building Description

Erddig Hall is a Grade I listed country house constructed in the 1600s. The building is constructed of red brick with stone dressings and string courses. The building has a hipped slate roof to a central block with brick chimney stacks across the roof footprint. The roofs feature multiple dormers and vents along with lifted and slipped slates that provide access to the loft voids. Windows are generally 12-pane sash windows on the upper two stories and 9 pane sash windows on the ground floor. The architecture reflects the late 17th- and early 18th-century English Baroque style, characterised by a symmetrical seven-bay façade and three storeys with an attic. The sash windows are set in stone architraves, and the central bay is accentuated by a pedimented entrance.

The stable and laundry complex is an adjoining building complex to the immediate south of Erddig Hall. The laundry and stables complex contains the kitchen, bakehouse and scullery and all buildings contained within this complex are Grade II listed. Walls are constructed of brick, with slate dual pitched roofs supporting brick chimney stacks, stone dressings and eaves cornice. The complex is arranged around a cobbled quadrangle. The complex supports ground floor rooms with high ceilings through which loft hatches permit entry to contained loft voids above. The ground floor areas are largely exhibitions open to the public along with office and storage spaces. Loft voids are largely unused or in some cases used for storage.



Photo 1: Erddig Hall eastern elevation



Photo 2: Stable/laundry complex



Photo 3: Erddig Hall



Photo 4: Laundry and stable complex

Internally, Erddig hall retains richly paneled rooms and original furnishings, including fine examples of Georgian joinery and plasterwork on display for the general public. Rooms are in good condition and moderately well-lit and in daily use by visitors and staff.



Photo 5: Example of Erddig hall rooms



Photo 6: Interior of laundry room area

The internal lofts are divided into 23 voids (Ten inside the main house and a further 13 in the laundry/stables complex) separated by partition walls with some supporting magnet-controlled fire doors. The lofts of the main hall have several areas of damage creating access points suitable for bats to enter. The roof of the main hall supports a timber king post truss system and is lined with bitumen felt. Rock wool insulation is also present in some of the loft spaces.



Photo 7: King post truss in loft voids of main hall



Photo 8: Bitumen lined roof and rock wool insulation present in loft voids of main hall

The stable loft voids are generally smaller in height and length than the voids of the main house. They contain bitumen lining on the underside of the slate roofs and are fairly uncluttered with a king post trust design supporting the roof. Bat droppings were observed on the floor of these voids but did not appear to be fresh.



Photo 9: Example of stable loft void with bat droppings present on floor



Photo 10: Example of stable loft void

3.3 Drone Inspection

The drone survey looked to assess and identify potential access points along the roof. The roof of the main house was additionally accessed to identify further potential access points. Multiple lifted tiles were observed across all roof elevations and a number of larger access points were present in the vents where mesh was missing. Gaps around dormers and chimney stacks were recorded and access to the top of the roof found small numbers of pipistrelle and brown long-eared bat droppings.



Photo 11: Dormers of main house



Photo 12: Gaps under slates



Photo 13: Gaps under slates around dormers and chimneys



Photo 14: Area on top of Erddig Hall



Photo 15: Bat dropping in roof top area of photo 14



Photo 16: Vent with missing mesh



Photo 17: Meshed vent

3.4 Building Inspection

Erddig Hall

The loft spaces in Erddig hall can be divided into ten distinct loft spaces separated by partition walls and accessed from a central attic space that is currently used for storage and has no obvious access for bats.

Evidence of bats was observed in all loft spaces in Erddig hall. Scatterings of droppings largely consistent with brown long-eared bat dropping morphology were found throughout voids 1, 2, 5 and 10, and larger volumes of droppings found in lofts 3, 4, 6, 7 and 8. A brown long-eared bat was seen roosting in situ at the ridge of void 7 on the day of the survey. The droppings were noted to be a mixture of ages with notably fresh droppings found in voids 1, 3, 4 and 6.



Photo 18: Brown long-eared bat in void 7



Photo 19: Scatterings of droppings throughout voids

Laundry and Stables Complex

Owing to the height and location of some of the loft hatches in the laundry and stables complex, not all the lofts could be entered and searched (Lofts 11, 12, 13, 15, 20) on the first survey visit, see **Photo 20**. During the second site visit the above mentioned loft voids could be searched from the accessible areas that had been created through the lofts.

Evidence of bats in the form of bat droppings were observed across lofts 11, 12, 13, 14, 15, 16, 18, 19, 20, 21 and 23 along with a pile of droppings in stairwell 17, see **Photo 22**. Droppings largely appeared to belong to brown long-eared bats but droppings in stairwell 17 were morphologically more typical of lesser horseshoe bat. A single likely lesser horseshoe dropping was also found hanging in a cobweb in the ground floor room of stable 19, see **Photo 25**. Many of the loft voids contain small scatterings of droppings across their footprints. However, lofts 13 and 14 contained notable piles of over 100 droppings and are considered likely to be used for maternity roosting.



Photo 20: High loft hatch over visitor displays that could not be accessed (Area 20) on initial visit.



Photo 21: Loft hatches accessed above stable area (Area 19)



Photo 22: Lesser horseshoe bat droppings on stairwell (Area 17)



Photo 23: Loft 21



Photo 24: Bat droppings in loft 21



Photo 25: Lesser horseshoe bat dropping in cobweb in area 19



Photo 26: Piles of droppings in loft 11 of laundry complex



Photo 27: Piles of droppings in loft 14

Carpentry Shop

The Carpentry shop is a two-story building that contains a carpentry workshop on the ground floor, office rooms on the second floor with attic void filling the roof space. Externally the building is similar to the rest of the buildings within the stable complex, with stone walls and slate roofs.

The ground-floor carpentry workshop measuring approximately 3m high by 10m wide and 10m long, which is open to the public with doors frequently left open. The interior is well-lit, due to multiple windows and door openings. Swallow nests are present within the structure, indicating use by nesting birds. A hole in the wall leading to an internal cavity is present, which could provide opportunistic roosting potential for bats, including night roosting; however, no evidence of bat use was recorded at the time of survey.

The first floor is currently in regular daily use as office space by National Trust staff. It is well maintained and is well lit due to the number of windows. The internal walls are plastered and in good condition, with no visible gaps or features suitable for roosting bats. Owing to the well-lit, frequently disturbed nature of the room and the absence of suitable crevice features, the roosting potential for bats is considered to be negligible.

The loft void measures approximately 1.5m in height, 6m in width and 25m in length and is of more modern construction relative to the rest of the building. The roof is lined with bitumen felt and the space is insulated with rock wool, supported by a fink truss system. Evidence of bat use was recorded within the loft, comprising a single accumulation of approximately 100 droppings of varying age, along with scatterings of droppings throughout the void.



Photo 28: Ground floor of carpentry workshop



Photo 29: Carpentry shop attic void



Photo 30: Bat droppings in carpentry shop roof void



Photo 31: Metal Workshop

Metal Workshop

The metal work shop is a small single story lean-to structure with supporting stone walls and a slate roof. Internally, this structure is open to the roof and therefore does not contain a separate roof void. The structure measures approximately 4m in height, 5m in width and 5m in length. The structure is relatively well-lit due to several windows, and the roof is lined with bitumen felt, which exhibits some small holes. Several potential access points were identified, including gaps at the tops of the walls where the roof meets the structure, as well as holes where beams tie into the walls, which may lead internally. A fireplace is present and largely blocked; however, an open flue pipe remains, which could provide additional access. Whilst these features offer some limited potential for opportunistic bat use, no evidence of bats was recorded during the survey. Although this building has some roosting potential it is considered unlikely that reopening of the fireplace will impact any bats that may occasionally use the structure.

3.5 Nesting Birds

Some evidence of nesting birds and bird activity was observed during the surveys with some old nesting material in the roof voids of the main hall. It is likely that a range of bird species will utilise the buildings for nesting. Barn swallow nests were noted in the carpentry workshop.

3.6 Emergence Surveys (and Thermal imaging drone survey)

A total of three emergence surveys across 4 separate evenings were undertaken of the hall and associated buildings using experienced surveyors, unmanned night vision camera and acoustic bat detector set ups around the buildings and within the courtyard, supplemented by the use of a thermal imaging drone. **Table 2** summarises the weather conditions and timings of surveys undertaken.

Table 2: Survey events and weather conditions

Date	Building	Sunset	Start Time	End Time	Temp (°C)	Rain	Cloud	Wind (Beaufort)
24/05/26	Erddig hall only	21:17	21:02	22:47	21-16	NIL	0-0%	0-0
26/05/26	Stables/laundry complex only	21:20	21:05	22:50	21-18	NIL	80-40%	0-0
22/06/26	Erddig hall & Stables/laundry complex	21:41	21:26	23:11	25-20	NIL	75-60%	0-1
13/07/26	Erddig hall & Stables/laundry complex	21:33	21:18	23:03	21-18	NIL	0-0%	3-2

24th May 2026 Emergence Survey (Erddig Hall only)

During the first May survey, three surveyors, one drone pilot, and 3 unmanned thermal (Pixfra A613) were deployed around the main Erddig hall building (including two NRW bat licenced surveyors). See **Plan 4** for locations.

Moderate levels of activity were observed throughout the survey. Noctule bat, soprano and common pipistrelles were heard and seen commuting and foraging in the eastern formal gardens. One bat was seen emerging at 22:31 by a ground based surveyor from the center of the roof on the eastern elevation. Calls detected at this time belong to soprano pipistrelle, however given the constant foraging activity by soprano pipistrelles around the building, it's considered more likely that this bat was a brown long-eared bat whose call went undetected. Professional judgement has been used to determine likely species for emergence surveys given the limitations of the surveys.

A thermal imaging drone was positioned on the north west corner of the building, looking south east flying at a height of 50-52.7m **(Photo 32 & 33)**. The drone was set to hover in this location for the duration of the survey, landing only for battery replacements, then launched back to this position. The thermal imaging drone detected a further 17 bats emerging from the hall roof. These were a mix of Myotis sp. (likely Brandts), Brown long-eared and common pipistrelle.

Full details of the emergences can be found in **Table 3** below and **Plan 5**.




Photos 32 & 33 : UAV thermal and non-thermal mode view

Table 3: 24th May Hall Emergence survey results

Time	Species	Number of bats	Emergence point
21:44	Likely brown long-eared bat	1	North west roof elevation from ridge of central hipped roof
21:53	Likely brown long-eared bat	1	East roof elevation and flies north along the parapet wall
21:53	Myotis sp.	1	From ridge of central roof area on eastern roof elevation
21:55	Myotis sp.	1	East roof elevation
22:00	Myotis sp.	1	From ridge of central roof area on eastern roof elevation
22:02	Myotis sp.	1	From north east roof elevation
22:08	Myotis sp.	1	From north east roof elevation
22:11	Myotis sp.	1	From north east roof elevation
22:15	Likely brown long-eared bat	1	Central area of eastern aspect of roof near chimney
22:24	Myotis sp.	1	Corner of north eastern most roof
22:28	Likely brown long-eared bat	1	Eastern roof elevation
22:31	Likely brown long-eared bat	1	Central roof on eastern elevation
22:32	Likely brown long-eared bat	1	From central roof on eastern elevation
22:38	Common pipistrelle	1	From north east roof elevation
22:39	Myotis sp.	1	From north east roof elevation
22:43	Common pipistrelle	1	From north east roof elevation
22:44	Likely brown long-eared bat	1	From north eastern aspect of roofs
22:46	Common pipistrelle	1	From central roof area on eastern roof elevation near chimney
Total = 18 emergences			
Brown long-eared bat		7	
Myotis sp.		8	
Common pipistrelle		3	

26th May 2026 Emergence Survey (Stables/laundry complex only)

During the second May survey, five surveyors, one thermal imaging drone and two unmanned cameras were deployed around the associated stables/laundry complex.

A thermal imaging drone was positioned on the north west corner of the complex, looking south east flying at a height of 49-50m **(Photo 34 & 35)**. The drone was set to hover in this location for the duration of the survey, landing only for battery replacements, then launched back to this position.

The thermal imaging drone detected ten bats emerging from the roofs of the laundry/ stable complex.

Soprano and common pipistrelles were seen and heard foraging and commuting. A single noctule bat was heard but not seen. No emergences were recorded by ground-based surveyors or equipment.



Photos 34 & 35: UAV View in non- thermal and thermal mode

Full details of the emergences can be found in **Table 4** below and **Plan 6**.

Table 4: 26th May Emergences

Time	Species	Number of bats	Emergence points
21:36	Brown long-eared bat	1	From behind trees on western aspect of building
21:37	Brown long-eared bat	1	From roof of northern most roof (Location 22)
21:42	Brown long-eared bat	1	From roof of northern most roof (Location 22)
21:51	brown long-eared bat	1	From behind trees on western aspect of building
21:53	Soprano pipistrelle	1	Courtyard interior, likely to have emerged but exact emergence point not clear
22:33	Soprano pipistrelle	1	Courtyard interior, likely to have emerged but exact emergence point not clear
22:37	Brown long-eared bat	1	Small courtyard roof
22:44	Brown long-eared bat	1	From roof of northern most roof adjoining small courtyard
22:45	Soprano pipistrelle	1	From roof of northern most roof adjoining small courtyard
22:48	Soprano pipistrelle	1	From roof of northern most roof adjoining small courtyard

Total: 10 emergences	
brown long-eared bat	6
Soprano pipistrelle	4

22nd June 2026 Emergence Survey

During the June survey, eight surveyors, one drone pilot, and four unmanned night vision cameras (Nightfox Nova deployed inside and outside of the courtyard of the stables block) covering Erddig hall building and associated stables/laundry complex (including four NRW bat licenced surveyors). See **Plan 6** for locations.

A thermal imaging drone was positioned on the southern end of Erddig hall, looking north flying at a height of 35-40m **(Photo 36)**. The drone was set to hover in this location for the duration of the survey, landing only for battery replacements, then launched back to this position.

The thermal imaging drone detected three emergences. Full details of the emergences can be found in **Table 5** below and **Plan 6**. No bats were confirmed to have emerged by ground-based surveyors and equipment.

Moderate levels of activity were observed throughout the survey. Notable noctule activity was recorded with a stream of at least nine noctules commuting from a north east direction and over the buildings travelling south west between 21:48 and 22:05. It is considered likely a maternity roost occurs nearby in the wider estate. Foraging activity by soprano and common pipistrelles were heard and seen in the eastern formal gardens. Myotis bats and brown long-eared bats were also heard. Common pipistrelles were seen foraging in the southern courtyard of the stable block.

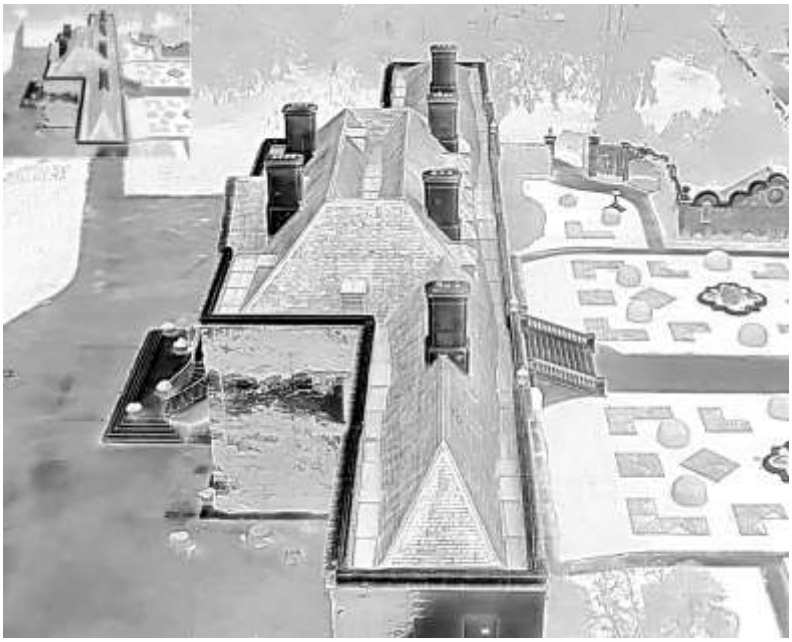


Photo 36: UAV thermal camera view

Table 5: Emergences recorded during June emergence survey

Time	Species	Number of bats	Emergence point/ Comments
22:10	Brown long-eared bat	1	Emerges from eastern roof elevation near chimney
22:14	Common pipistrelle	1	Appears from south east corner, exact emergence point unknown
22:18	Brown long-eared bat	1	Emerges from eastern roof elevation and flies south
Total: 5 bats emerge			
Common pipistrelle		1	
Brown long-eared bat		2	

13th July 2026 Emergence Survey

During the July survey, seven surveyors, one thermal imaging drone, and five unmanned night vision cameras (2 x Pixfra A613 on Erddig hall and 2 x Nightfox Novas inside and outside the courtyard of the stables) were deployed covering all elevations of the buildings (including three NRW bat licenced surveyors). See **Plan 7** for locations.

A thermal imaging drone was positioned on the north west corner of Erddig hall, looking south east flying at a height of 51m. The drone was set to hover in this location for the duration of the survey, landing only for battery replacements, then launched back to this position.

The thermal imaging drone detected five emergences and a total of seven bats were seen to emerge from the hall roof. Full details of the emergences can be found in **Table 6** below and **Plan 7**. See **Photos 31 & 32** for UAV thermal camera view.

Moderate levels of activity were observed throughout the survey particularly in the stable courtyard and around the formal gardens to the east of the main hall. Noctule, pipistrelle species, myotis species (including natterer's bat), lesser horseshoe bat, and brown long-eared bat were recorded on the site.

Table 6: Emergences summary July survey

Time	Species	Number of bats	Emergence point/ Comments
21:52	Common pipistrelle	1	From lower area of western roof elevation near eaves
22:02	Brown Long-eared bat	1	From lower area of western roof elevation near eaves
22:15	Brown Long-eared bat	1	Possible emergence, seen flying along the parapet wall on eastern elevation
22:16	Common pipistrelle	1	From ridge of central hipped roof section on eastern elevation
22:50	Brown Long-eared bat	2	From western roof elevation and hipped end of roof
22:52	Myotis sp.	1	From eastern roof elevation
Total: 7 bats emerge			
Common pipistrelle		2	
Brown Long-eared bat		4	
Myotis sp.		1	

3.7 Static Detector Surveys & Loft Inspections

Static detectors were deployed in eight of the loft voids to provide further information on bat occupation. See **Table 7** provides a summary of the static detector locations and recording periods along with the number of recording nights achieved along with results and **Plan 2** for locations.

The static detectors recorded common pipistrelle, long-eared bat, and small Myotis species in various lofts and no other species. Some lofts recorded significantly larger volumes of calls compared to others, such as loft 20 recording 3200 passes by brown long-eared bats in a six day period and loft 3 recording 1867 passes of small Myotis bats in a six day period both in the month of July indicating likely maternity roosts. Roost types have been inferred by the volume of passes and time of recordings in conjunction with loft inspection survey results.

Internal loft inspections were undertaken during the initial preliminary roost assessment visit and revisited during static detector deployment and collection visits. As many of the lofts were searched as possible. It was not often possible to enter lofts within the stable/laundry complex owing to visitor displays. **Table 8** summarises the results of the loft inspection surveys below.

Table 7: Loft Inspection Survey Results

Date	Loft	Results
13/10/25	7	1x brown long-eared bat
05/05/26	1	3 x small Myotis species (Likely Brandt's)
	3	1 x small Myotis species (Likely Brandt's)
	7	Bats seen by NT staff flying 2 weeks ago (mid April)
	9	Fresh droppings (brown long-eared bat appearance)
	10	Fresh droppings (brown long-eared bat appearance)
	Lofts 2, 4, 5, 6, 8 searched and no bats found	
22/06/26	Lofts 1-10 searched and no bats found Lofts 14, 17, 18 and 21 searched and no bats found	
07/07/26	20	3x brown long-eared bats seen (2 at southern end of void and 1 at northern end of void) Lofts 14, 17, 18 and 21 searched and no bats found
	3	2x small myotis bats (possibly Brandt's) at ridge, can hear more bats under roof felt. 1x Brown long-eared bat at ridge Lofts 1, 2, 4, 5, 6, 7, 8, 9, 10 searched and no bats found
13/07/26	Lofts 1-10, 23, 18, 19 searched and no bats found	

Table 8: Static Detector Results Summary

Loft Void	Deployed	Collected	Total nights recorded	Species Recorded	Total Number of Passes	Time of Day	Roost Type
7	05/05/26	08/06/26	2	No bats recorded			
9	05/05/26	08/06/26	3	Common pipistrelle	25	Night only	Night roost
14	22/06/26	07/07/26	13	Long eared bat	312	Day and night	Day and night roost
				Small Myotis bat	80	Day only	Day Roost
21	22/06/26	07/07/26	3	Common pipistrelle	8	Night only	Night roost
				Long eared bat	2		Night roost
20	07/07/26	13/07/26	6	Long eared bat	3200	Day and night	Likely maternity roost
				Small Myotis bat	43	Night only	Night roost
3	07/07/26	13/07/26	6	Long eared bat	290	Day and night	Day and night roosts
				Small Myotis bat	1867	Day and night	Likely maternity (Brandt's bat likely)
				Common pipistrelle	4	Night only	Night roost
1	07/07/26	13/07/26	6	Small Myotis bat	28	Night only	Night roost
23	13/07/26	27/07/26	14	No bats recorded			
7	13/07/26	27/07/26	14	Long eared bat	283	Day and night	Day and night roost

4 Conclusions

In consideration of all the survey data collected the following roost types and species are considered to be present in Erddig Hall and the associated stable/ laundry complex.

Table 9: Bat roosts at Erddig Estate

Erddig Hall		
Species	**Roost Type**	**Max Count**
Brown long-eared bat	Maternity Transitional roost Day roost Night roost	At least 7
Small Myotis Bat (Likely Brandt's)	Maternity roost Day roost Night roost	At least 8
Common pipistrelle	Night roost	At least 3
Stables/Laundry Complex		
Brown long-eared bat	Maternity roost Day roost Night roost	At least 6
Small Myotis bat (Likely Brandt's)	Day roost Night roost	1-2
Common pipistrelle	Night roost	1-2
Soprano pipistrelle	Day roost	4
Lesser horseshoe bat	Night roost	1

It should be noted that maximum counts are not considered to be wholly accurate. In some cases these have been inferred from acoustic data. The small myotis bats could be heard within the roofing felt during the loft inspection sounded like potentially a larger number of bats than what was counted out during emergence surveys. Brandt's bat maternity colonies typically number between 20-60 bats. Brown long-eared maternity roosts typically number between 3-30 bats.

It is assumed that brown long-eared bats are present owing to previous DNA work undertaken in past surveys and the location of the site falling outside the current known range of grey long-eared bats.

It should be noted that previous surveys found maternity roosting in other lofts, see **Table 10**. Roosts described as confirmed roosts below during current survey include those confirmed through static detector and internal inspection survey. Emergence survey results suggest that loft 2, 9, 6, 11, 12 may all be used as roosts, however it is unclear where bats are roosting versus where they are emerging from as movement between loft voids is possible due to gaps in partition walls.

Table 10: 2025/2026 and 2023 survey results

	Current Survey (2025-2026)		**Previous surveys (2023)**	
Loft	**Species**	**Roost type**	**Species**	**Roost type**
Erddig Hall				
1	Small Myotis	Day and night	Brown long-eared	Day
2	-	-	Brown long-eared	Day
3	Small Myotis Brown long-eared Common pipistrelle	Maternity Day and Night Night	Brown long-eared	Day

4	-	-	Brown long-eared	Day
5	-	-	Brown long-eared	Day
6	-	-	Brown long-eared	Day
7	Brown long-eared	Transitional	Brown long-eared	Maternity
8	-	-	Brown long-eared	Day
9	Common pipistrelle Brown long-eared	Night Maternity and Day	Brown long-eared	Maternity
10	Brown long-eared	Day	Brown long-eared	Day
Stables/Laundry Complex				
11	Soprano pipistrelle Brown long-eared bat	Day Day	Brown long-eared	Day
12	Brown long eared bat	Day	No roost	
13	-	-	Brown long-eared	Maternity
14	Brown long-eared Small Myotis	Day and Night, Satellite possible Day	Brown long-eared	Maternity
15	-	-	Brown long-eared Common pipistrelle	Night Day and night
16	-	-		
17	Lesser horseshoe	Night	Lesser horseshoe	Night
18	-	-	No roost	
19	-	-	Brown long-eared	Day
20	Brown long-eared Small Myotis	Maternity Night	Brown long-eared	Day
21	Common pipistrelle Small Myotis	Night Night	No roost	
22	-	-	No roost	
23	-	-	Brown long-eared	Day

Bats change roosting sites often and therefore it is possible that some of the loft voids where maternity roosts were not found to be present this year may be used by the maternity colony or satellite colonies within subsequent years.

Given the presence of droppings found in every loft void during the present survey (except void 15) it is considered likely that all of the loft spaces could support occasional day roosting by brown long-eared bat, small myotis and/or pipistrelle species.

Nesting birds have also been noted around the building, including barn swallows in stairwell 17.

5 Impact Assessment

The National Trust are looking to undertake a series of fire safety works to safeguard the historic hall and associated stable and laundry buildings in the event of a fire. The current scope of works proposed includes fire alarm testing, installation of boarding to enable access in loft voids, compartmentalisation works, door upgrade and replacement throughout, creation of a temporary welfare facility, creation of a joinery workshop in the sawmill and creation of blacksmith workshop in the historic blacksmith workshop. Works are also planned along the restaurant roof on the western elevation to remove several skylights that are leaking water into the restaurant interior.

In the mansion house minor works to seal some gaps between lofts are needed along with reinstating rock wool in some areas. Some works to the third floor publicly accessible areas are also required such as upgrading and/or replacing doors to make them fire safe.

The stable and laundry block require a more extensive scheme of works including improvements to walkways and compartmentalisation. Detailed plans for the stable and laundry block are not available at the time of writing.

The buildings are confirmed bat roosts known to support brown long-eared and small myotis maternity roosts and day roosts, lesser horseshoe night roosts and day/night roosts of common pipistrelle, small myotis and brown long-eared bats. If the works are undertaken in the absence of mitigation, the works may negatively impact bats and their roosts, having a negative impact at the site and local levels.

The restaurant roof was not found to have any bats emerging on any survey event. Therefore, it is unlikely that bats roost here and planned works are therefore unlikely to impact on bats and their roosts.

Nesting birds also use the buildings. In the absence of mitigation, the works could have a negative impact at the Site level.

Given the scope of works being limited to the buildings only, it is not expected that the works will impact on any designated sites in the surrounding area.

Recommendations are made to minimise any negative impacts associated with the planned works, see Section 6.

6 Recommendations

6.1 Bats

Erddig Hall and the adjoining laundry/stables complex are confirmed bat roosts supporting brown long-eared bat and small Myotis maternity (likely Brandt's), day and night roosts, lesser horseshoe night roosts, and common and soprano pipistrelle day/night roosts.

Mansion House Works

Works taking place in publicly accessible areas of the mansion house such as the replacement or upgrading of doors to make them fire safe is not considered likely to impact on bats and their roosts (which are only known/likely to occupy the loft voids only).

Works within the loft voids include the sealing of some gaps in partition walls between the loft voids. This work may impact bats if these gaps are used by bats to move between loft voids to access roosting sites. Some replacement of fallen rock wool is also required in the north wing. Works inside the loft voids will also result in disturbance of bats if any bats are present at the time of the works.

A derogation licence from NRW is therefore required to undertake these works. The derogation licence is to include a detailed method statement detailing the methodology and timings of the works necessary to fulfil the terms of the license and avoid death/injury to any bats during the works. The licence will also detail any compensatory roost spaces to be created and/or enhancement measures to be undertaken. A licence must be obtained ahead of the works commencing. Currently it takes NRW approximately 30-45 working days to process a licence application.

Brief recommendations with regard to the main building loft works and bats are provided below, however these will need to be finalised and approved by NRW during the licence application process. A method statement, based on the actual work details, must be provided with the licence application. It should be noted that where a project requires consents (such as planning consent, listed building consent etc), derogation licences can only be obtained once consents have been successfully sought and any pre-commencement conditions have been discharged.

The works should follow a method statement (to be approved by NRW) that includes (but is not limited to) the following:

- Works in areas known, suspected or previously recorded to support maternity roosts, will be timed to take place outside of the maternity period to avoid disturbing bats during the sensitive maternity period (Works should take place from Mid September to – mid April inclusive). It should be noted that access to some lofts is only permitted via travelling through other lofts therefore even lofts

without maternity roosting may have to wait until outside the maternity period to minimise the risk of disturbance to bats with contractors passing in and out of lofts;

- All contractors will be provided with a toolbox talk by the supervising ecologist ahead of works commencing detailing the protected status of bats and any working methodologies and protocols to follow imposed by the licence;

- Fuse link dampers should be installed in any partition wall that is affected by gap sealing where these gaps are sufficient for bats to move through so that access between voids is maintained. Damper dimensions should be a minimum of 20mm x 30mm, but where possible dampers with dimensions similar to those of the gap to be lost should be used. Dampers should be installed in the same location as the gap to be lost (where possible) or as close to the original location of the gap as practically possible;

- An ecologist is to check the loft spaces and working areas for bats immediately ahead of works. If bats are found to be present, they will be moved by the supervising ecologist to an undisturbed area, if they do not disperse away of their own accord.

- A scheme of enhancements such as the installation of bat boxes and/or a hot box creation should be undertaken in one of the lofts.

The Laundry and Stables Complex

A detailed plan of works for the laundry and stable complex is not yet available at the time of writing however, it is likely to involve the following: Fire alarm installation and testing, improvements to walkways within the lofts and compartmentalisation of loft voids to make the site fire safe. Opening the ceilings to review the route in void which may involve the creation of new hatches being made.

It is considered likely that the works will require a derogation licence from Natural Resources Wales (NRW) in accordance with the requirements of the Habitats Regulations.

The derogation licence is to include a detailed method statement detailing the methodology and timings of the works necessary to fulfil the terms of the license and avoid death/injury to any bats during the works. The licence will also detail any compensatory roost spaces to be created and/or enhancement measures to be undertaken. A licence must be obtained ahead of the works commencing. Currently it takes NRW approximately 30-45 working days to process a licence application.

Brief recommendations with regard to the laundry and stables complex and bats are provided below, however these will need to be finalised and approved by NRW during the licence application process. A method statement, based on the actual work details, must be provided with the licence application. It should be noted that where a project requires consents (such as planning consent, listed building consent etc), derogation licences can only be obtained once consents have been successfully sought and any pre-commencement conditions have been discharged.

The method statement should include (but not be limited to) the following:

- Works affecting the loft voids where either maternity roosts are known, are likely to occur or have historically occurred must avoid the maternity period for bats (May-August inclusive).

- The contractors carrying out the works should be provided with a toolbox talk at the outset of the works. This should cover the protected status of bats and the restrictions imposed by any NRW licence.

- Checks should be undertaken by the licenced ecologist or an accredited agent prior to any works commencing. These checks will include a search of the loft spaces for any bats present prior to any works commencing in these areas. If bats are found in the loft space to be worked on, they will be moved to an undisturbed area (such as a different loft void) by the supervising ecologist, if they do not disperse away of their own accord. This area will change depending on the location of the works on any given day and therefore will be decided by the supervising ecologist on the day. In the unlikely event that hibernating bats are discovered, the works will be halted and postponed until the spring.

- All work affecting known or suspected bat roosting features will be supervised by a licensed bat ecologist. Any soft-stripping works should be undertaken with the possibility of roosting bats in mind. Contractors should remove all elements by hand, checking carefully for any evidence of bats.

- Contractors should not touch or handle bats except where there is an imminent danger of their being killed or harmed (for example, due to collapsing masonry or unstable structures etc) in which case they will be carefully picked up using gloved hands and removed to a cool, dark, safe and undisturbed location nearby to await the arrival of the bat ecologist.

- Dampers should be installed in any partition wall that is affected by gap sealing or where any new partition walls are created. Damper dimensions should be a minimum of 20mm x 30mm Smaller dimensions can be used as long as the dimensions are the equivalent size of the gap to be lost. In newly installed partition walls, significantly larger dampers should be installed (such as 200mm by 300mm) to permit fly throughways between voids. Dampers should be installed in the same location as the gap to be lost or as close to the original location of the gap as practically possible;

- A scheme of enhancements are recommended to increase the roosting capacity of the lofts including measures such as creating hot boxes, installing bat boxes or wooden planks with a continuous gap beneath.

Carpentry Workshop

It is understood that the works planned within the carpentry workshop will not impact the loft void where evidence of roosting bats is present. Therefore, it is considered unlikely that bats would be impacted.

However, evidence of barn swallow nesting was found on the ground floor of the carpentry workshop. The exact nature of the works and activities to take place should be discussed with an ecologist to determine whether further surveys and/or mitigation may be required.

Metal Workshop

The metal workshop has some potential to support roosting bats between the roof tiles and lining, however it is considered unlikely that bats would use the interior of the structure due to light levels caused by the windows. Therefore, it is not considered likely that blacksmithing activities in this area would impact on bats and their roosts.

In the event that bats are found, all works should cease immediately and an ecologist should be contacted for advice urgently.

Restaurant Skylight Removal

No bats were seen emerging from the restaurant roof during any survey event and it is considered that bat roosts are likely absent from this roof. It is recommended the skylight removal proceeds under a non-licenced method statement under the supervision of a licenced ecologist.

The non-licenced method statement should include (but not be limited to) the following:

- The contractors carrying out the works should be provided with a toolbox talk at the outset of the works. This should cover the protected status of bats and the restrictions imposed by any NRW licence.

- All work affecting known or suspected bat roosting features will be supervised by a licensed bat ecologist. Soft-stripping works should be undertaken with the possibility of roosting bats in mind. Contractors should remove all elements by hand, checking carefully for any evidence of bats.

- If bats or evidence of bats are found at any time, all works must cease immediately and the ecologist should be contacted for advise as a matter of urgency. A licence from NRW will be required.

- It is recommended that enhancements including the installation of two lifted tiles or purpose built bat tiles are installed to increase the roosting capacity of the roof.

General Recommendations

No breathable roofing membranes (BRMs) should be installed in any buildings on the site. Only roof lining Type 1F Bitumen felt with hessian matrix to BS8747 (2007) should be used, this is an acceptable alternative under current Buildings Regulations (Parts L1B, L2B and C). Research has shown that roosting bats can become entangled with the fibres of BRMs resulting both in the death of bats and damage to the BRM which is sufficient to seriously impair its waterproofing function.

If any lighting is required to undertake the works in the loft voids for example, lighting will be used for the shortest period possible to get the works completed and will be switched off and removed from the lofts following completion of work.

6.2 Nesting Birds

Works in loft voids or areas birds may use for nesting should be timed to avoid the bird nesting season (March to August inclusive). If this is not practical, a survey for nesting birds should be carried out on the morning of the works.

If nesting birds are found at any point, all works must cease and the supervising ecologist contacted immediately. A suitable exclusion zone will be decided and demarcated by the supervising ecologist. No works can continue within the exclusion zone until the young birds have fledged. The exact nature of the works and activities to take place in the carpentry workshop should be discussed with an ecologist to determine whether disturbance to nesting birds is likely given this area is open to the public and subject to some levels of disturbance daily. Further surveys and/or mitigation may be required.

7 References

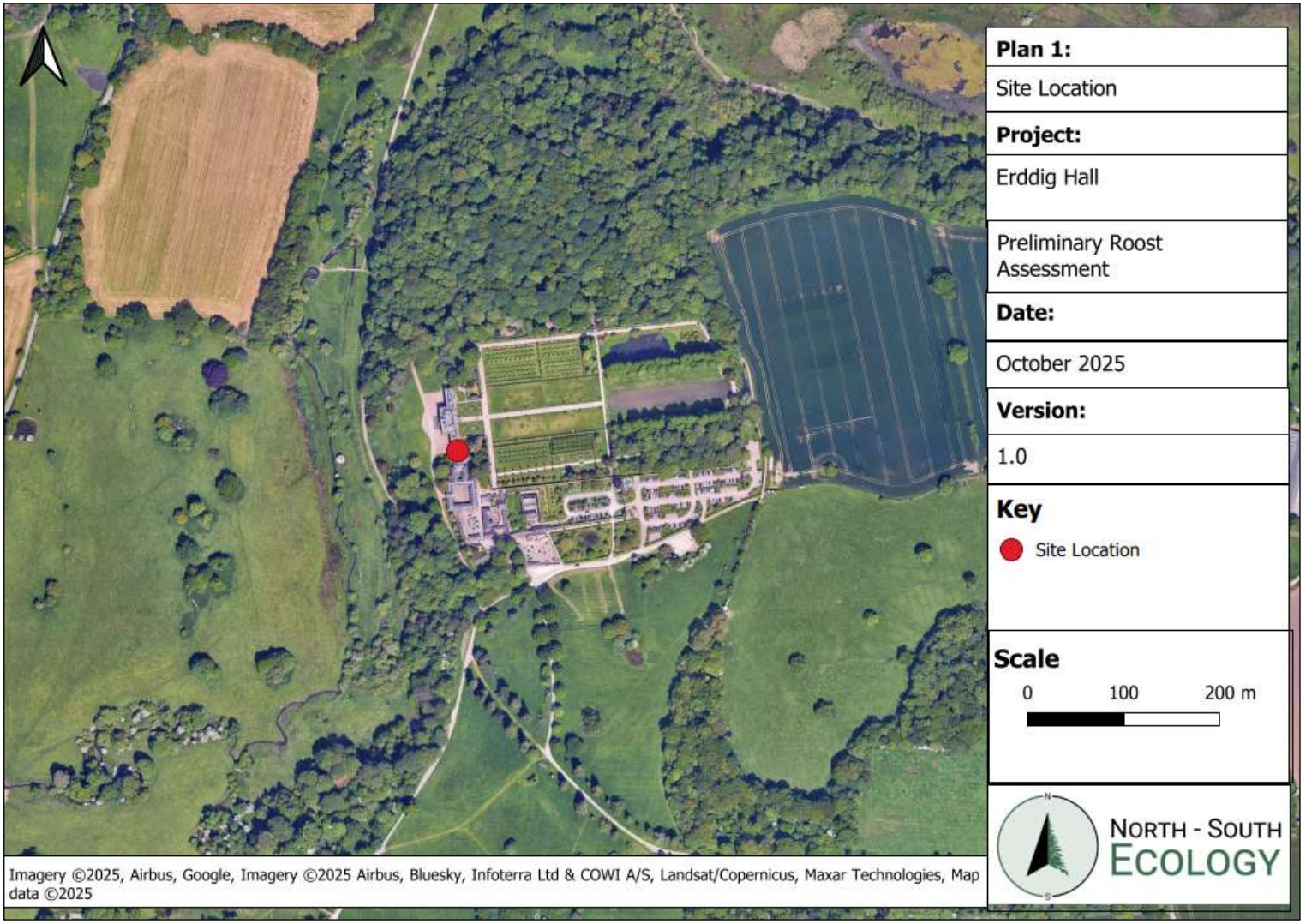
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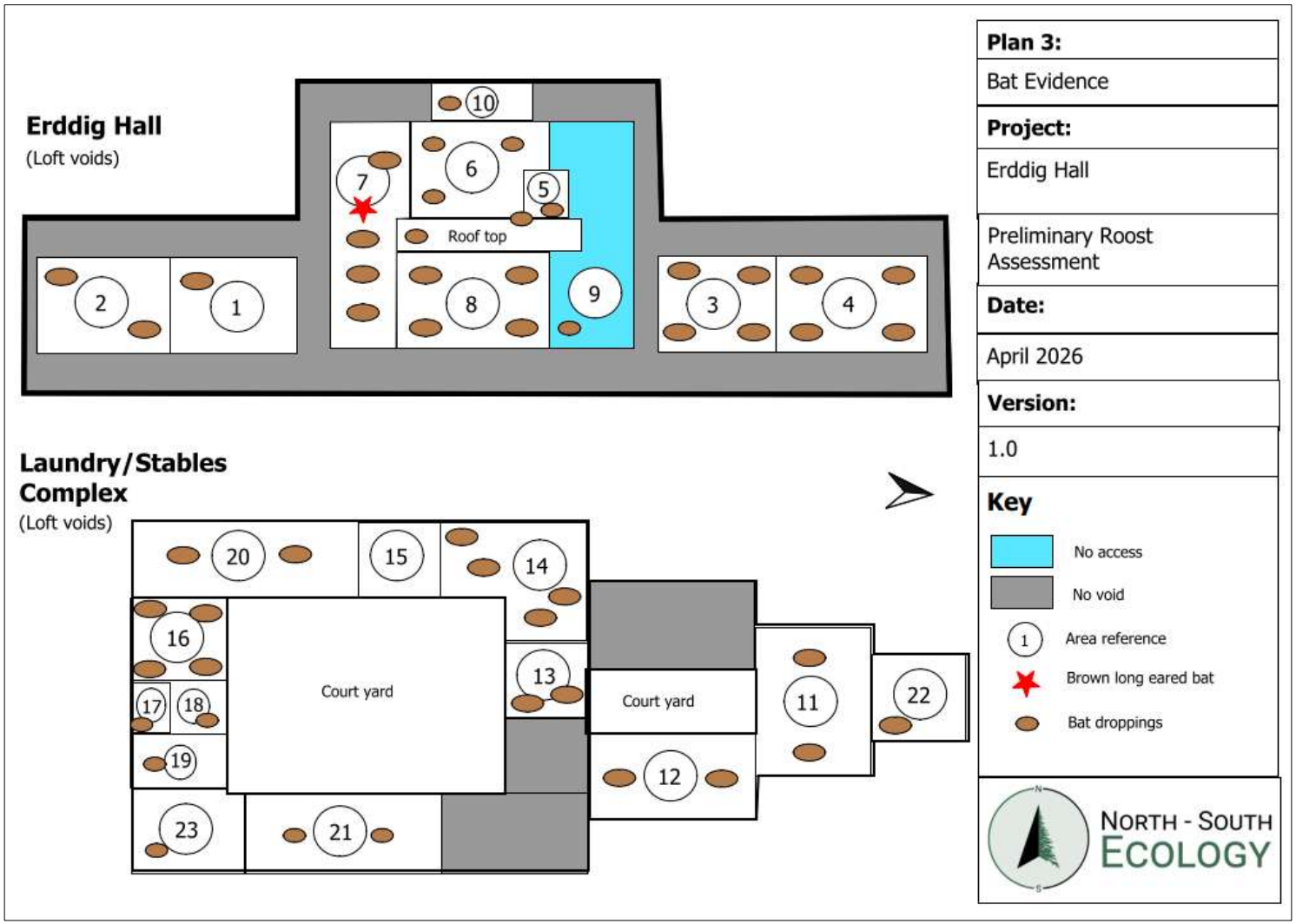
Plan 1: Site Location



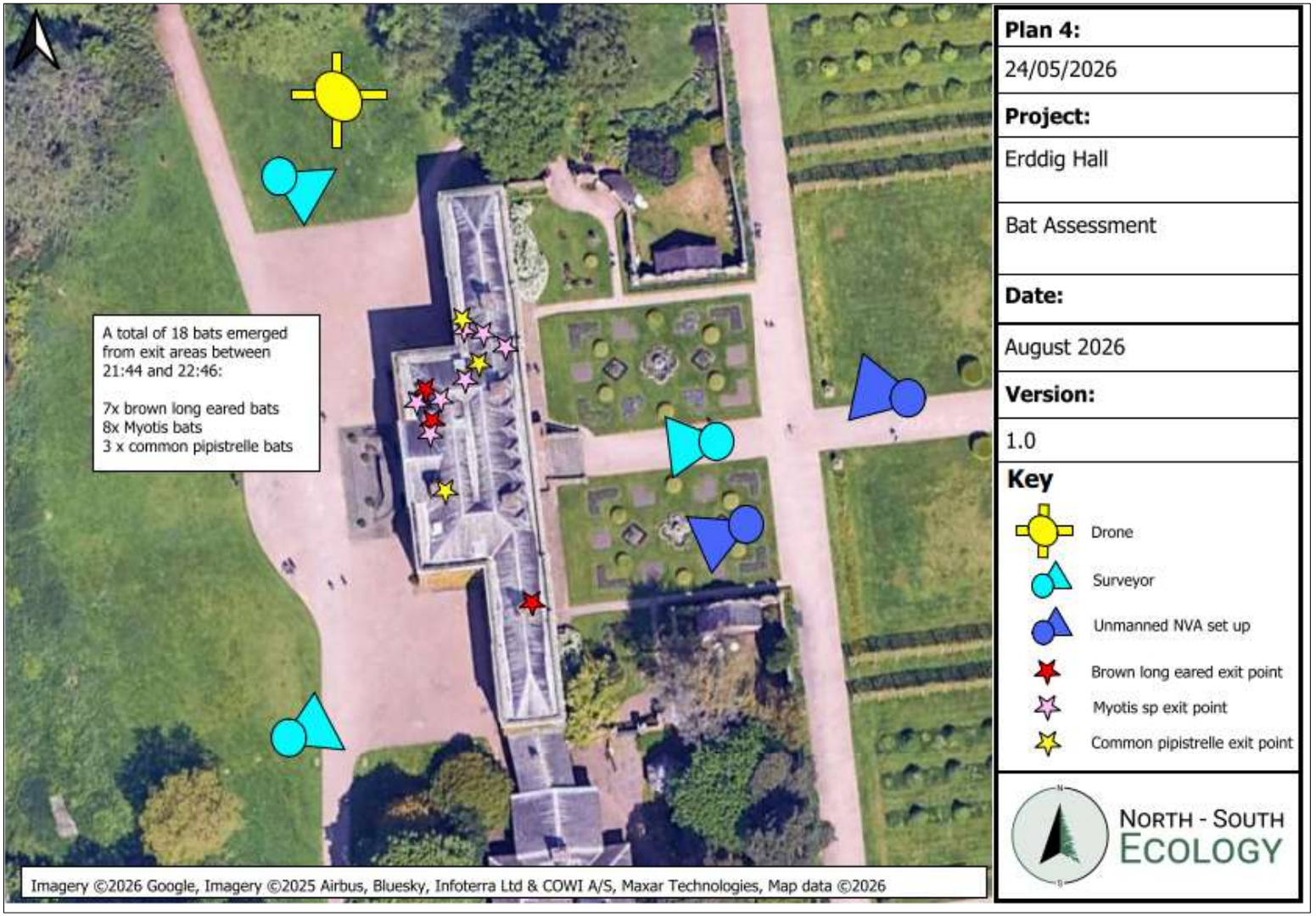
Plan 2: Surveyed Areas



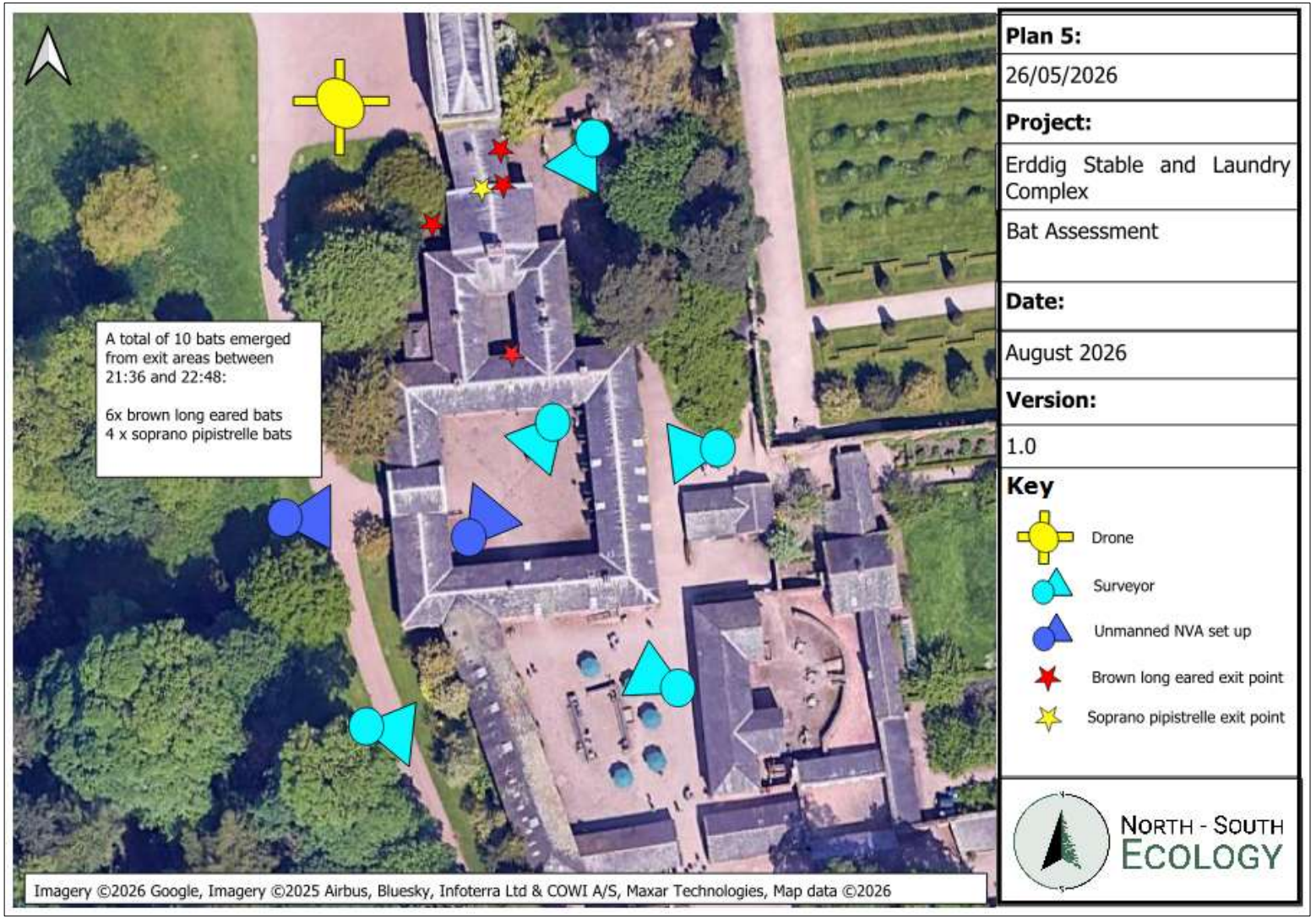
Plan 3: Bat Evidence



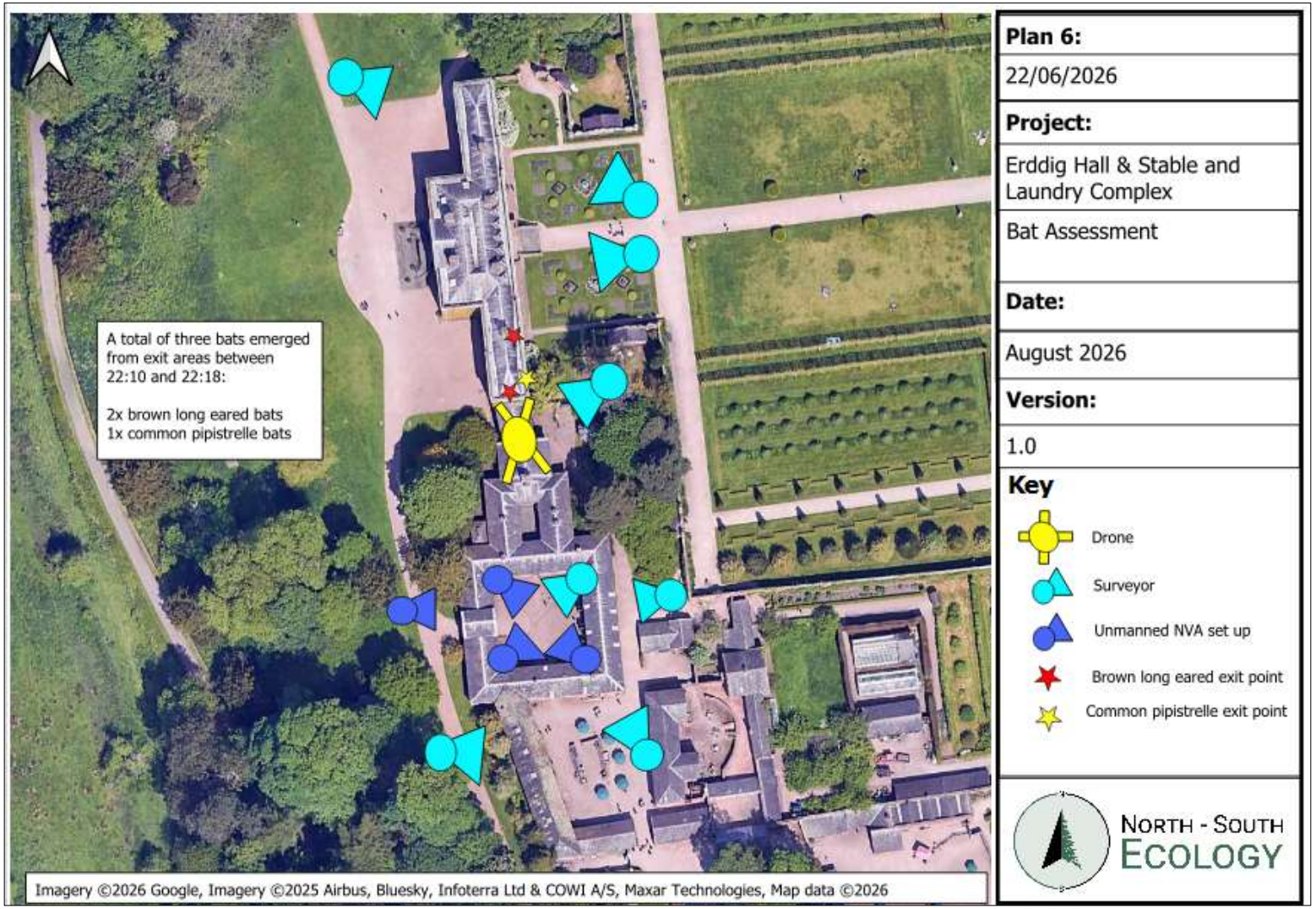
Plan 4: May Results (Erddig Hall)



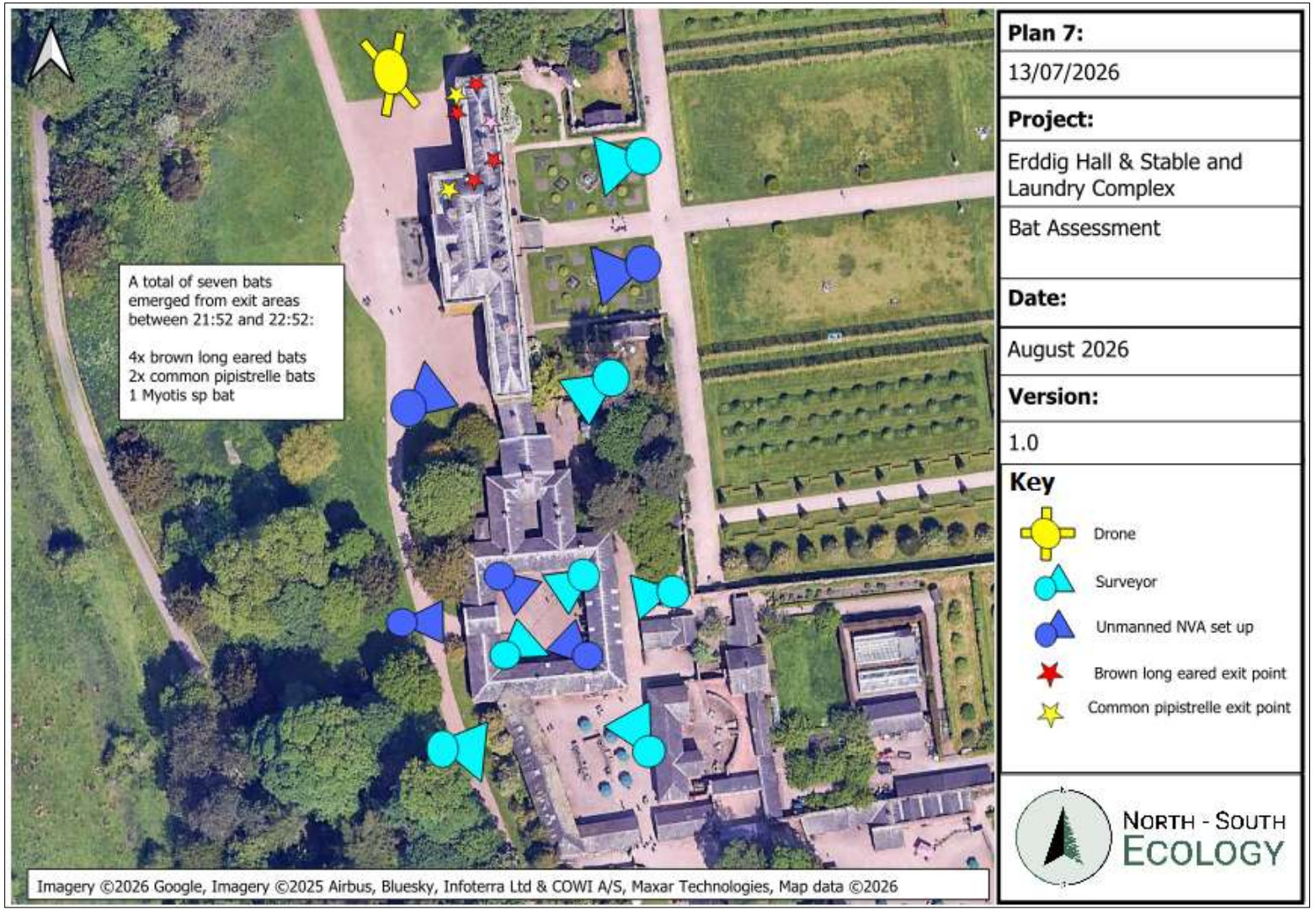
Plan 5: May Results (Stables and Laundry Complex)



Plan 6: June Results



Plan 7: July Results



Appendix 1: Summary of Bat Evidence from initial PRA surveys

Location	Bat Evidence	Comments
Erddig Hall		
Loft void 1	1 pile of fresh brown long-eared droppings	
Loft Void 2	Scattering of BLE droppings throughout	NT staff report bats being present in this loft
Loft Void 3	Over 100 droppings (BLE) some fresh	
Loft Void 4	Over 100 BLE droppings some fresh	
Loft Void 5	Less than 10 droppings on staircase	
Loft Void 6	Over 100 droppings scattered through some fresh	
Loft Void 7	1 x BLE bat present and over 100 droppings through void	
Loft void 8	Over 100 bat droppings present	BLE, other species possible (natterers)
Loft void 9	Bat droppings visible inside	Not fully entered due to wasps
Loft void 10	10-20 bat droppings BLE	
Roof top	Less than 10 bat droppings on roof tiles (BLE and pipistrelle)	
Laundry and Stables Complex		
Loft Void 11	Less than 10 old droppings	
Loft Void 12	5 old droppings near hatch	
Loft Void 13	Pile of over 100 droppings near hatch (old and new)	
Loft Void 14	Scatterings of droppings throughout	1.5m high to roof apex.
Loft Void 15	Scatterings of droppings throughout	
Loft Void 16	Over 100 bat droppings (BLE) and droppings on brick partition wall.	Loft space above stables. 1.5m high to apex, bitumen felt lined.
Loft Void 17	Lesser horseshoe bat droppings approx. 30 on staircase.	Staircase leading to Void 18.
Loft Void 18	Small numbers of BLE droppings	Room used for storage with some light from windows
Loft Void 19	Less than 10 BLE droppings (old) in loft void, 1 lesser horseshoe bat dropping hanging in cobweb in ground floor area	1.5m high to apex, bitumen felt lined roof.
Loft Void 20	Pile of droppings under ridge beam (old and new)	
Loft Void 21	10-20 droppings scattered throughout (BLE)	
Loft Void 22	No obvious evidence of bats	1m high to apex.
Loft Void 23	1 x fresh BLE droppings and scatterings	Loft void above offices, small void.
Carpentry Workshop		

Loft Void 1	Scatterings of droppings	
Metal workshop		
Room 1	No evidence of bats	