



Ecological Appraisal

Endon High School, Leek Road, Endon, Stoke-on-Trent, Staffordshire

Prepared for Dawkes & Co Limited

March 2025

Fauna Forest Ecology Limited

Registered company number in England: 10184201

VAT Registration number: 284024905

Registered office address: South View Bungalow, Cheadle Road, Oakamoor, ST10 3AN

This document has been prepared by Fauna Forest Ecology Limited as an ecological appraisal. Fauna Forest Ecology Limited accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

Methods used to prepare this report, including those carried out in the field followed The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.

Site Name:	Endon High School
Project:	Commercial development
National Grid Reference:	SJ 9235452899

Report prepared by David Nixon MSc MCIEEM MRSB

Report reviewed by Tom Charlton MSc MRSB

CONTENTS

1	INTRODUCTION	4
2	METHODOLOGY	5
3	RESULTS	7
4	DISCUSSION & RECOMMENDATIONS	10
	APPENDIX A: LEGISLATION SUMMARY	12
	APPENDIX B: SITE IMAGES.....	13

TABLES

Table 1: Guidelines summary for assessing potential bat roost suitability	6
Table 1: Non-statutory designated sites	8

1 INTRODUCTION

- 1.1 This report presents details of an ecological appraisal carried out by Fauna Forest Ecology Limited at Endon High School, Leek Road, Endon, Stoke-on-Trent, Staffordshire (the site) (grid reference SJ 9235452899) on behalf of Dawkes.
- 1.2 As part of the ecological appraisal, a preliminary roost assessment (PRA) followed by a ground level tree assessment (GLTA) was completed in response to an email from Staffordshire Wildlife Trust (SWT) on 27th November 2024, which stated the following:
- *Within the validation document, there is a table that indicates proposals that will trigger a protected / priority species survey and assessment. This includes 'all buildings with weather boarding, hanging tiles or soffit boxes and that are within 200m of woodland and/or water, are close to lines of trees and/or a network of hedges; or to mature gardens, parks, cemeteries or other urban open space' which will trigger assessments for bats and breeding birds. There is a building within this development that is due to be demolished and it has soffits, there are also lines of trees, a small, wooded area and mature gardens within 200m of this. I also carried out a protected sites and species search (something that the developer should have done), and there are bat records close to the development - all bats are legally protected.*
 - *In addition to this, the tree report mentions several trees which are mature and within or immediately adjacent to the development site. These are T32, T33, T35 (over mature), T1 (early mature), T2 (early mature), T3, T4 and T6. Mature trees can have features that bats will roost and birds nest within. The validation document also states that the following should trigger a protected or priority species assessment for bats and breeding birds - 'Proposed tree work (felling or lopping) and/or development affecting:*
 - *mature and veteran trees that are older than 100 years;*
 - *trees with obvious holes, cracks or cavities,*
 - *trees with a girth greater than 1m at chest height;'*
 - *There are exemptions to carrying out a PEA and, if the developer can meet these, then they will not have to carry one out. I would expect some written assurance from a suitably qualified ecologist that there are not suitable features for roosting bats and birds within the site or features that bats would use for foraging or commuting that will be lost or impacted by the development and there will be no negative impact on statutory or non-statutory wildlife sites or priority or locally important habitats (e.g. SSSIs, local wildlife sites) and protected or priority species.*
- 1.3 The objectives of the ecological appraisal were to:
- complete a desk study to establish what notable and/or protected species (local to the area) could be impacted by the proposed development.
 - Complete an appropriate survey for notable and/or protected species that may be impacted by the proposed development, which subsequently included an assessment of the building and trees

onsite for their potential to support roosting bats and nesting birds, and a search for evidence of roosting bats and nesting birds in the building and trees.

- confirm presence or absence of roosting bats and nesting birds in the building and trees.
- assess the site for its relative ecological importance to bats and birds.

1.4 The aim of this report is to:

- present survey findings.
- highlight any ecological constraints relating to protected species (namely, roosting bats and nesting birds) and the proposed development.
- make recommendations for mitigation, compensation and enhancements where necessary.

1.5 This report should be read in conjunction with the Statutory Biodiversity Net Gain Assessment (Fauna Forest Ecology Limited, July 2024), which provides habitat maps and descriptions of the site, including a comprehensive botanical list.

1.6 All survey and assessment work was completed in accordance with official assessment guidelines¹ and largely followed that recommended by the Chartered Institute for Ecology and Environmental Management (CIEEM)² and follows the British Standard Code of Practice³.

2 METHODOLOGY

Desk study

2.1 A search was undertaken using desktop resources including the Multi-Agency Geographic Information for the Countryside⁴ (MAGIC) resource. MAGIC was used to search for records of designated sites and ecologically important habitats within a 1km radius of the site. Google Earth⁵ was also used to study the nearby landscape. Staffordshire Ecological Record (SER) was asked to produce notable and protected species records and a list of statutory non-designated sites within a 1km radius of the site.

Preliminary Roost Assessment (PRA)

2.2 Ecological consultant David Nixon MSc MCIEEM MRSB (bat licence number 2015-18322-CLS-CLS) completed the survey on 13th December 2024.

¹ Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edn. Bat Conservation Trust, London.

² CIEEM (2017) Guidelines for Ecological Report Writing. CIEEM, Winchester.

³ British Standards Institution (2013) BS 42020:2013. Biodiversity – Code of practice for planning and development. British Standards Institution, London.

⁴ Multi-Agency Geographical Information for the Countryside (MAGIC). Crown Copyright and database rights [2015]. Ordnance Survey 100022861. Available at: <http://www.magic.gov.uk/>

⁵ https://www.google.co.uk/intl/en_uk/earth/

- 2.3 During the survey, where possible, the building was internally and externally examined for evidence of bats and birds. The building survey included an assessment using a powerful torch and endoscope. All holes and crevices considered by the surveyor as likely to be used as a bat roost or provide a suitable bird nesting environment were examined. Visual ground inspections were undertaken using binoculars. Photographs were taken to capture likely features of ecological value to bats and birds, such as missing tiles, damaged or missing mortar, exposed gable ends, gaps within soffit boards, rotten timbers and other potential entry points. Other aspects of the building were surveyed, including windows, window sills, external doors, and the ground within close proximity of the structure was thoroughly inspected for bat droppings and feeding remains.
- 2.4 Following a detailed assessment of the building in association with roosting bats, it was classified according to its roosting suitability based on the presence of features within the structure and/or surrounding landscape (Table 1).

Table 1: Guidelines summary for assessing potential bat roost suitability

Suitability	Description of building or structure
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
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 habitats to be used on a regular basis or by larger numbers of bats (i.e. maternity or hibernation).
Moderate	A structure with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time.
Confirmed roost	Evidence of bats or use by bats found.

Ground Level Tree Assessment (GLTA)

- 2.5 The GLTA was completed by the surveyor on the same date as the PRA. Trees onsite included one mature willow *Salix* sp. (DBH 200mm), one mature lime *Tilia platyphyllos* (DBH 310mm), one semi-mature horse chestnut *Aesculus hippocastanum* (DBH 150mm) and one mature cherry *Prunus* sp. (DBH 300mm). The willow and cherry were along the northern boundary and the lime and horse chestnut were along the southern boundary. There was also a small ash *Fraxinus excelsior* sapling and a small yew *Taxus baccata* along the northern boundary, along with a small semi-mature hazel *Corylus avellana* along the southern boundary.

2.6 All trees were assessed for their value to support roosting bats. Close-focusing binoculars and torches were used to inspect for potential roosting features (PRFs), such as:

- rot holes.
- woodpecker holes.
- horizontal and/or vertical cankers in the stems of branches.
- knot holes.
- scar crevices.
- loose/flaking bark.
- covering of dense ivy.
- bat or bird boxes.
- any other features deemed suitable for roosting bats.

2.7 The trees were classified to establish their likelihood of supporting roosting bats. A scoring system was applied to each tree using the following criteria:

- PRF-I: PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
- PRF-M: PRF is suitable for multiple bats and may therefore be used by a maternity roost⁶.

3 RESULTS

Desk Study Results

- 3.1 No statutory designated sites are within a 1km radius of the site.
- 3.2 SER returned details of four non-statutory designated sites located within a 1km radius of the site, as presented below in Table 2.

⁶ Collins J (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edn. Bat Conservation Trust, London.

Table 2: Non-statutory designated sites

Site ID	Grid Ref.	Site Name	Status	Abstract
95-22-77	SJ927527	Postbridge Farm (west of)	Local Wildlife Site	A section of the Caldon Canal from Postbridge Farm to just east of Stanley Road Bridge, together with a small area of grassland.
95-12-57	SJ915527	Tinster Wood	Local Wildlife Site	An acidic semi-natural broad-leaved woodland noted on the Natural England's Ancient Woodland Inventory, which exhibits large amounts of exposed sandstone rock.
95-23-34	SJ923534	Westfield Wood	Retained BAS	A linear stretch of ash woodland bisected by a small stream flowing from north to south. Large areas of the woodland have been incorporated into local gardens. The canopy is well developed and mature, with frequent alder and rowan.
95-31-17	SJ931517	Stanley Pool	Retained BAS	A large pool surrounded by semi-improved neutral grassland, woodland, acid grassland and a heathland mosaic.

Notable and Protected Species Records

3.3 The following bat records were returned from SER:

- five unidentified bat records - the latest was from 1994.
- 28 common pipistrelle *Pipistrellus pipistrellus* records - the latest was from 2018.
- two soprano pipistrelle *Pipistrellus pygmaeus* records - the latest was from 2018.
- two brown long-eared *Plecotus auritus* records - the latest was from 1993.

Nearby Habitats and General Site Description

3.4 The site is 0.25ha in size, spanning the length of the front eastern extent of the school between the footpath along Leek Road, extending back towards the school itself. The boundary is marked along the eastern margin by a well-managed cherry laurel *Prunus laurocerasus* that is approximately 90m in length, as well as ornamental privet hedges *Ligustrum ovalifolium* along the south and north margins. Immediately behind the cherry laurel is a relatively narrow short-mown lawn strip that extends along the entire eastern boundary. Within the site is a timber-clad outbuilding with a gradual pitched roof.

Potential impacts based on desk study results

- 3.5 Following a study of the local landscape and site during the desk study, it was apparent that protected species that could potentially be affected by the proposed work included bats and birds.

Preliminary Roost Assessment Results

Building description

- 3.6 This building was a timber-framed single storey detached outbuilding located at grid reference SJ 92350 52887, formally used as additional classroom space. It supported a gradually pitched roof that was clad with concrete interlocking tiles. There was a single ridge line capped with concrete ridge tiles, and the eaves were boxed in with timber soffits. Along the sides of the roof at eaves level, were plastic fascias that extended up to the apex on each gable end, and the entire building was clad with vertical tongue and groove timber boarding on all side aspects.
- 3.7 Internally, the walls were plastered and covered with posters and other learning materials typically associated with schools. The floor space was carpeted and the ceiling was suspended with not specific loft void.
- 3.8 Overall, the building was in a good state of repair. Externally, the roof tiles were secured, well-mortared down, showing little in the way of suitable roosting opportunity for bats or birds. Likewise for the ridge capping tiles. As with all concrete-tiled roof pitches, small gaps were present along the verges beneath the front edge of the tiles and between the “wave” shape of some tiles, although overall the roof was well-sealed. Additionally, the soffits were well-sealed, with no obvious gaps between the timber material and walls, and the fascias were tightly secured throughout. Finally, the timber cladding was in good condition with no signs of rot or blistering.
- 3.9 No evidence of roosting bats or nesting birds was discovered during the PRA and internally, no obvious locations where bats could enter the building could be seen.

Building suitability to support roosting bats and nesting birds

- 3.10 Based on the findings, the building was classified as providing negligible bat roosting potential and negligible bird nesting potential.

Ground level tree assessment results

- 3.11 None of the trees assessed during the GLTA provided bats with suitable roosting opportunity, although the mature and semi-mature trees may be utilise during summer months by foraging bats.
- 3.12 The mature and semi-mature trees may be used by nesting birds between February and September (inclusive), as could the hedges along the site boundaries No evidence of previous nesting was discovered during the survey.

Limitations

- 3.13 No limitations were identified during the survey.

4 DISCUSSION & RECOMMENDATIONS

- 4.1 The site is not in a designated statutory or non-statutory site and the proposals are relatively small-scale. Provided waste is appropriately disposed of and there is no inappropriate use of nocturnal lighting, the proposed work will not impact habitats or wildlife beyond the site boundaries.
- 4.2 Records provided by SER provide insight to a wide range of wildlife species that have occurred in the local area, however it was clear during the desk study, only bats and birds could potentially be affected by the proposed development.
- 4.3 Most ecological data remain valid for only short periods of time due to the inherently transient nature of many protected fauna species. Where the species or group being surveyed for is present within the site, data are typically considered accurate for 12-18 months⁷.
- 4.4 The building was found to provide negligible roosting value for bats because it lacked potential roosting features (PRFs). Building PRFs typically include raised or dislodged tiles, buckled lead flashing, missing bedding mortar or gaps between fascias and soffits. By and large, the building was well appointed with few gaps, other than a few along the verges.
- 4.5 Whilst a mix of mature and semi-mature trees were present, the trees lacked PRFs typically associated with roosting bats, largely because the trees were not of an age or maturity when features such as tear-out, hazard beams and other damage occurs.
- 4.6 In view of above, no follow-up nocturnal bat surveys are recommended in support of the current application, though consideration must be given with regard to use of lighting and machinery during nocturnal hours to ensure bats and other nocturnal wildlife are not affected by construction work associated with the programme. General good practice regarding use of nocturnal lighting is as follows:
- if external artificial lighting is required during or after the construction phase, a low-level/low lux lighting scheme should be implemented to avoid indirect disturbance to nocturnal animals that may utilise local habitats.
 - during the construction phase, works will ideally not be carried out after dusk and should not commence until after dawn (it is also recommended that generators and machinery that emit significant noise levels are not left to run through the night).
 - light spill should be controlled and if lighting is required at night, hooded shields should be fitted to prevent inappropriate light spill.

⁷ <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

- 4.7 In addition to roosting bats, birds are known to utilise buildings for nesting, especially relatively small common species such as house sparrow *Passer domesticus*, wren *Troglodytes troglodytes*, blue tit *Cyanistes caeruleus* and many more. The building at the time of the survey provided negligible value for nesting and no evidence of previous nesting material was discovered.
- 4.8 Bird nesting must be considered if the trees are lopped or removed during the summer months when birds are nesting in the UK. Likewise for any impacts to the hedges onsite. No specific nesting bird surveys are recommended. However, best practice would be for works to be undertaken outside of the bird nesting period. Birds typically nest between February through to September (inclusive). If the works must be undertaken during the bird nesting period, work must not commence until a suitably qualified ecologist has confirmed there is no evidence of bird nesting within the area to be impacted by the proposed works.
- 4.9 If an active nest is discovered, an exclusion zone should be established, and works must be halted in that area until the nest is no longer active. Works should not commence without confirmation from a suitably qualified ecologist that no nesting birds exist within the area of impact. An area surrounding the nest site will be protected from disturbance with a suitable fence (not HERAs fencing) that would include an appropriate buffer zone, as determined by the suitably qualified supervising ecologist. Work will then be avoided in this area until the nest is no longer in use. Buffer zones in this respect will normally be 5m in diameter and will be delineated by canes, cordon tape and signage.
- 4.10 In terms of enhancements, ways to provide bats with additional roosting opportunity and birds with nesting opportunity would be to install boxes on nearby trees in the local area or on the side of buildings. Suggestions are as follows:
- fit four close hole and four open-fronted bird boxes to trees onsite to benefit a range of species. Boxes should be sited away from prevailing wind and may be fitted at various heights, ranging between 2 and 4m above ground level. Ideally, the boxes will be fitted to trees along the peripheral of the site away from overly disturbed areas. At least two sparrow terraces should also be fitted to the side aspects of the main school building in a location away from open windows, artificial light spill and prevailing winds.
 - fit six bat boxes onsite, comprising three Schwegler 1FF (or similar) and three Schwegler 2FN (or similar). The bat boxes should be fitted to suitable trees (mature with an uncluttered stem for flight access) approximately 4m from ground level, away from artificial light spill and prevailing wind.
 - ideally, the mitigation detailed above will be installed by the ecologists to ensure it is appropriately sited to maximise the possibility of enhancing the site.

APPENDIX A: LEGISLATION SUMMARY

Bats

In England and Wales, bats and their roosts are protected under the Conservation of Habitats and Species Regulations 2017 (as amended), and the Wildlife & Countryside Act 1981 (as amended). Taken together, this legislation makes it an offence to:

- deliberately capture (or take), injure or kill a bat.
- intentionally or recklessly disturb a group of bats where the disturbance is likely to significantly affect the ability of the animals to survive, breed, or nurture their young or likely to significantly affect the local distribution or abundance of the species whether in a roost or not.
- damage or destroy the breeding or resting place of a bat.
- possess a bat (alive or dead) or any part of a bat.
- intentionally or recklessly obstruct access to a bat roost.
- sell (or offer for sale) or exchange bats (alive or dead) or parts of bats.

A roost is defined as being 'any structure or place that is used for shelter or protection', and since bats regularly move roost site throughout the year, a roost retains such designation whether or not bats are present at the time.

Birds

All common wild birds are protected under The Wildlife and Countryside Act 1981 (and as amended). Under this legislation it is an offence to:

- kill, injure or take any wild bird.
- take, damage or destroy the nest of any wild bird while it is in use or being built.
- take or destroy the egg of any wild bird.
- certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

APPENDIX B: SITE IMAGES



Photo 1: views of the timber-clad gable



Photo 2: views of the tightly-fitted roof tiles



Photo 3: views of the tightly-fitted soffits



Photo 4: timer cladding fitted to the sides



Photo 5: views inside the building



Photo 6: side and gable views



Photo 7: lime tree, showing relatively smooth stem with no bat roosting suitability