

Libby Morris

Ecologist



Bat Emergence Report

Site Name

Rashes Farm, Turner's Hill

RH10 4PR

Client

Rick Verbeeten

Date of Issue

22nd August 2024

Author

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Report Summary

1. Libby Morris was commissioned by Rick Verbeeten to provide a bat scoping assessment and associated emergence survey of a residential dwelling located within Rashes Farm, Turner's Hill in May 2024. The building was assessed as having 'low potential', given that the roof and ridge tiles are largely in good condition with only minimal small gaps across both elevations of the property being present at the time of inspection. The internal room is built up to roof height and no void is present.
2. Based on the results of the scoping assessment, one emergence survey was undertaken on the 24th of July 2024 to determine the presence of roosting bats within the building.
3. No bats were recorded emerging from the property, and bat activity across the wider site was low with only Common Pipistrelle (*Pipistrellus pipistrellus*) and Brown Long-eared (*Plecotus auritus*) bats being recorded either commuting or foraging throughout the survey.
4. The results of the survey indicate that the features within the roof subject to the proposed construction works are not routinely used by bats and no further surveys or licence applications are required.
5. Steps for a precautionary approach have been laid out in section 4. It is advised that these are followed when commencing works to avoid harm to bats. Recommendations for enhancements to the site for bats have been laid out in Section 5.

Table of Contents

<i>Report Summary.....</i>	<i>2</i>
<i>1. Introduction.....</i>	<i>4</i>
1.1 Purpose of the Report	4
1.2 Site Background	4
<i>2. Methodology</i>	<i>7</i>
<i>3. Bat Survey Results</i>	<i>9</i>
3.1 Survey Conditions.....	9
3.2 Results	9
<i>4. Assessment of Findings.....</i>	<i>10</i>
<i>5. Enhancement Opportunities</i>	<i>11</i>
<i>6. Conclusion.....</i>	<i>11</i>
<i>APPENDIX 1 – Legislation and Best Practice.....</i>	<i>12</i>
<i>APPENDIX 2 – Reducing Impacts of Artificial Light</i>	<i>22</i>
<i>APPENDIX 3 – Conditions of use.....</i>	<i>23</i>

About the Author

This report has been prepared by Libby Morris BSc (Hons), an ecologist with seven years' experience undertaking bird surveys as well as being a FISC level 4 accredited botanist and a licenced MoRPH river surveyor. She is experienced in habitat and PEA surveys as well as specialising in statutory Biodiversity Net Gain and habitat assessments.

1. Introduction

1.1 Purpose of the Report

Rick Verbeeten has commissioned Libby Morris to undertake a bat scoping assessment and subsequent emergence survey(s) in regards to a planning application for a proposed development comprising the extension of a residential dwelling which will partially impact the eastern aspect of the roof.

Patrick Kitchener (BSc) and a licenced bat surveyor undertook a scoping assessment of the eastern aspect of the house on the 31st of May 2024, during which features were identified that were suitable to support roosting bats¹; primarily a number of small gaps within the tiles across the roof of the property being present at the time of inspection.

Overall, the building was assessed as having 'low' potential to support roosting bats and in accordance with current best practice guidelines² one emergence survey was recommended to determine the presence of roosting bats.

In accordance with recommendations, one bat emergence survey was carried out by Arun Ecology in July 2024. The purpose of this survey work was to confirm the presence or absence of a roost within the building, as well as ascertain the nature of any roosts. The results of this survey will be used to determine the need for an appropriate mitigation strategy to ensure compliance with UK and EU wildlife legislation as laid out in Appendix 2.

1.2 Site Background

The site is located within a semi-rural location in Sayers Common, West Sussex. The central grid reference for the site is TQ 26898 18085. It is adjacent to ancient woodland on the western, northern and eastern aspects, with the M23 motorway adjacent to the woodland at the eastern boundary. The site boundary is shown in Figure 1.

¹ Morris, L. Preliminary Ecological Appraisal Rashes Farm. 2024.

² Bat Conservation Trust. Bat Surveys for Professional Ecologists Good Practice Guidelines. 4th Edition, updated March 2024.

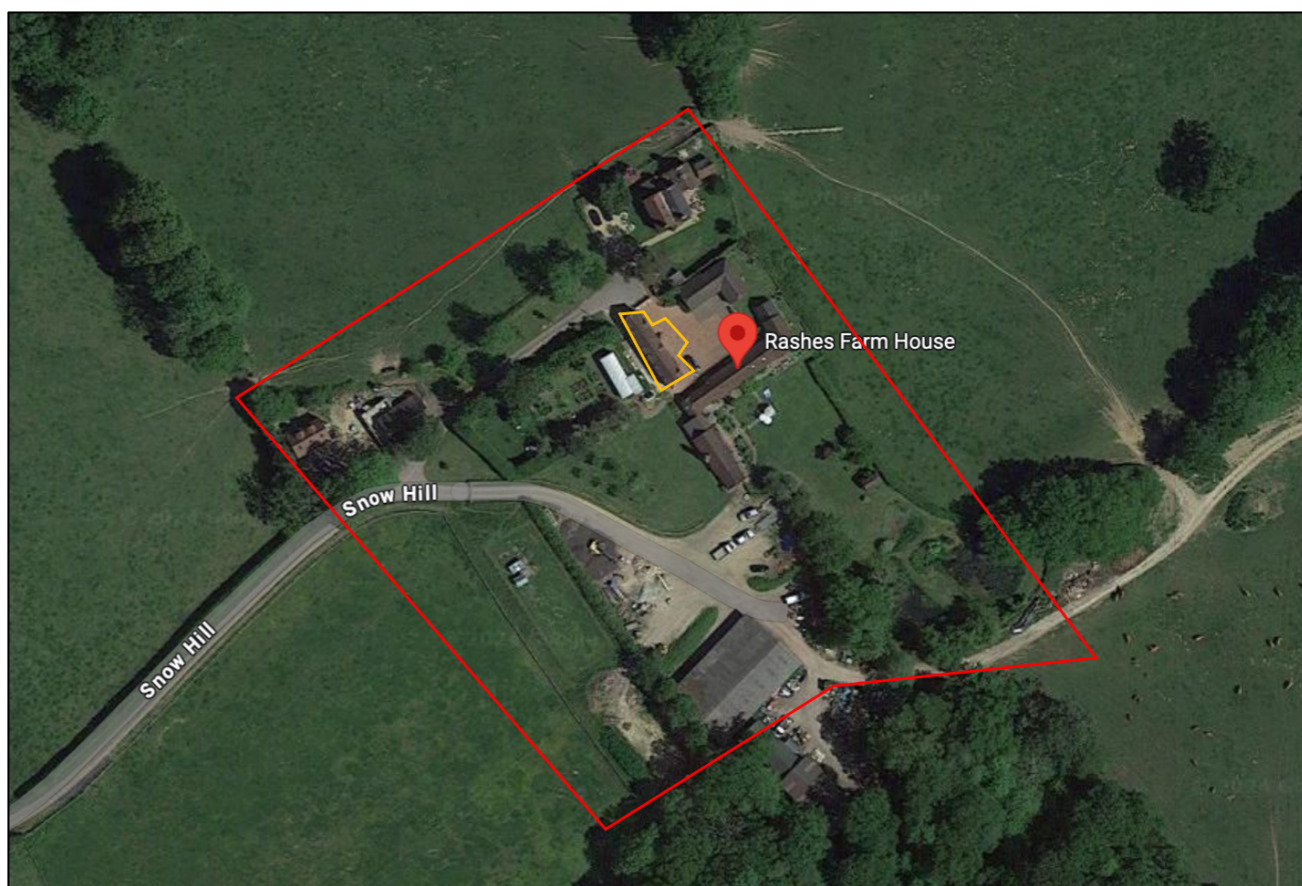


Figure 1. An aerial image showing the location of the site outlined in red, with the application site outlined in yellow. Image produced courtesy of Google maps (Map data ©2023 Google).

The application concerns the extension of a residential building, with existing plans shown in Figure 2 and the proposed extension plans shown in Figure 3.

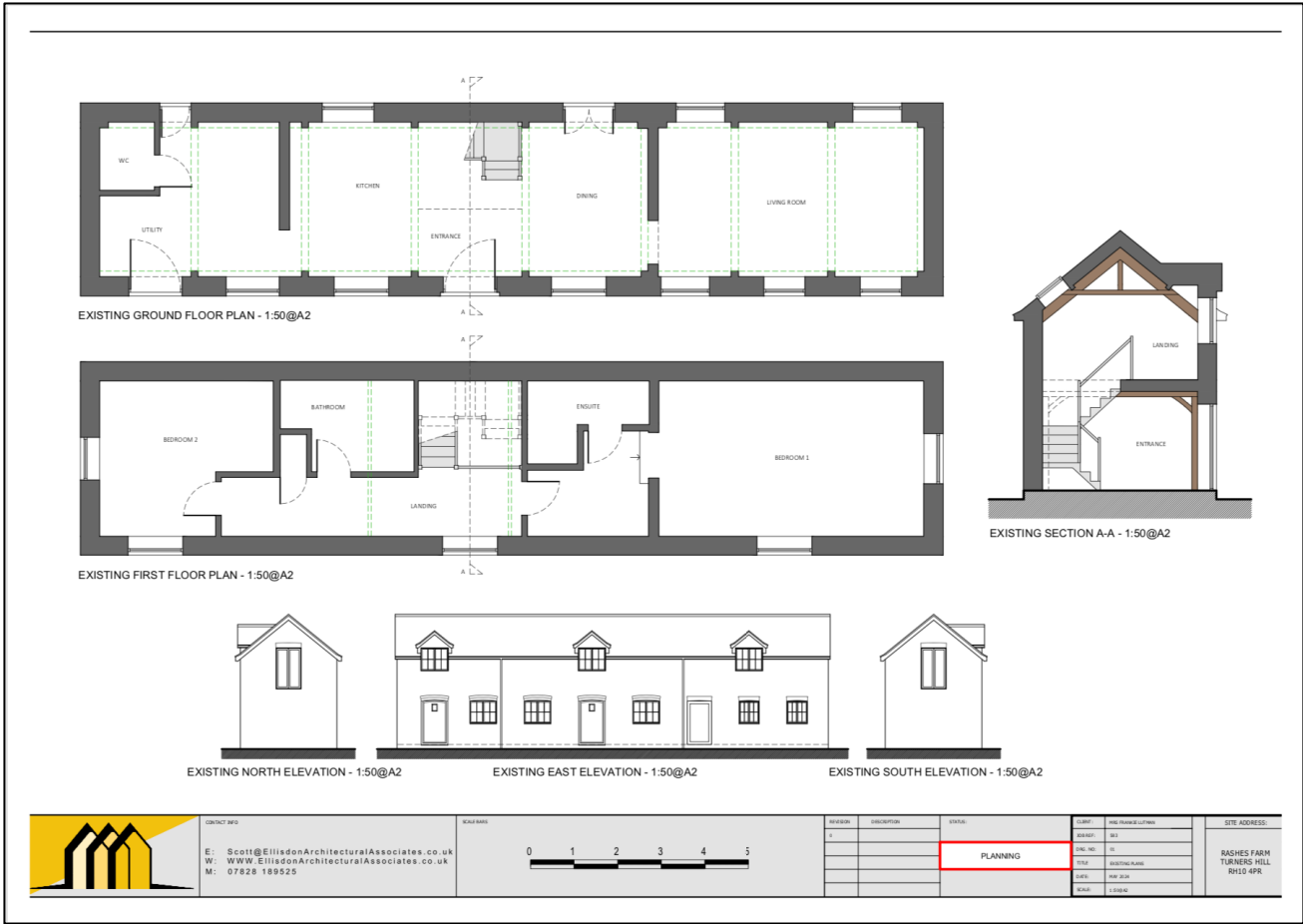


Figure 2. Existing building plans courtesy of Scott Ellisdon Architectural Associates (©2024).

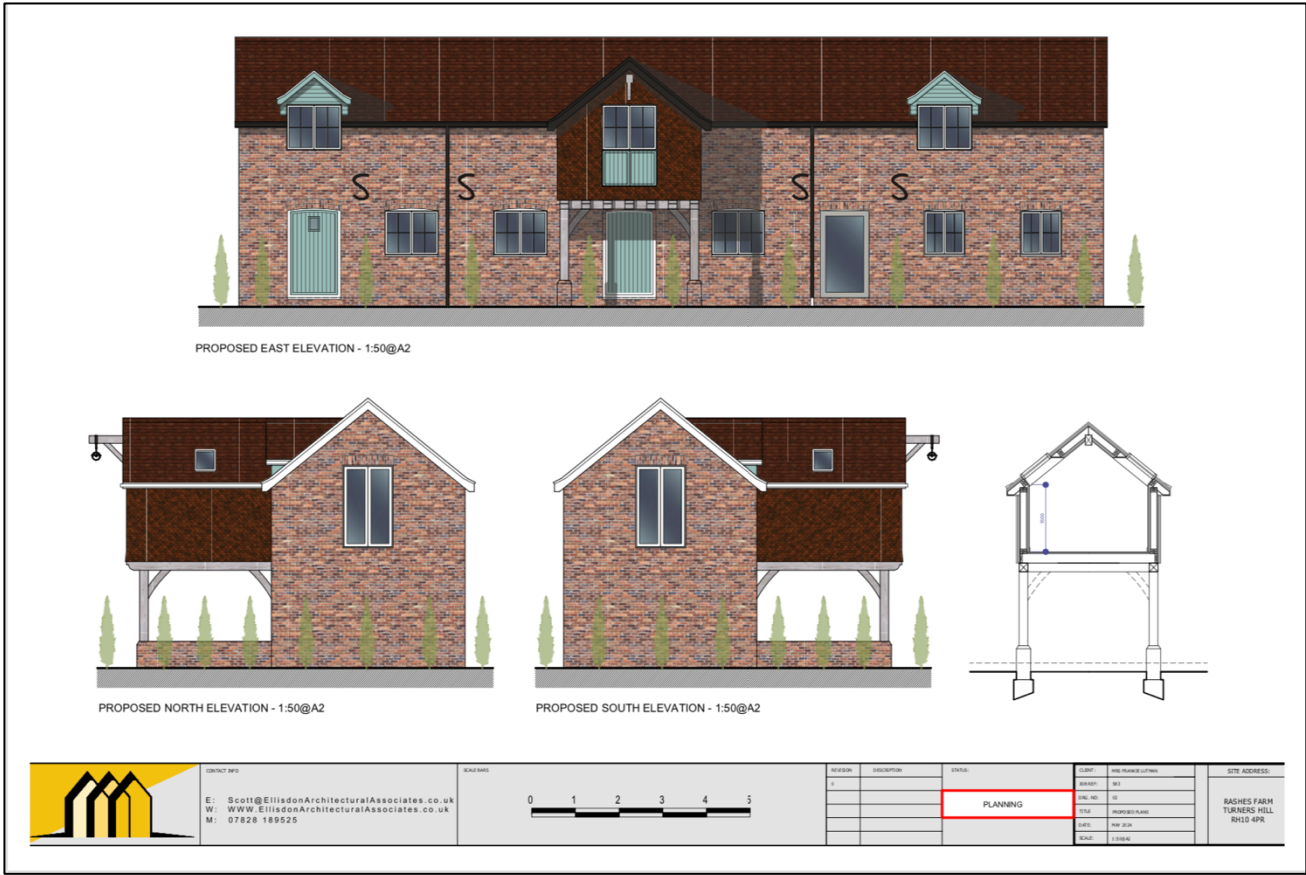


Figure 3. Proposed building plans courtesy of Scott Ellisdon Architectural Associates (©2024).

2. Methodology

One emergence survey was undertaken on the 24th of July 2024, using the methodology set out in the best practice guidelines prepared by the Bat Conservation Trust.

The survey focused on the roof and hanging tiles of the main house within the area subject to impact by the proposed development. One surveyor and one infra-red camera (Canon XA 40 aided by 7 inch monitor with two Nightfox 850nm infra-red torches) was positioned according to Figure 4. All features identified during the original scoping survey were visible by both the surveyor and the camera equipment.



Figure 4. Location of surveyor (yellow) and recording equipment (green) in relation to the area being surveyed shown with an arrow. (©2024).

Any bat activity on or around the potential roosting entry/exit features identified during the initial scoping was recorded using handheld bat detectors (Batlogger M) to identify species through call frequencies. The bat calls were logged and recorded as sonograms for later confirmation of species where necessary.

2.1 Limitations

In accordance with best practice guidelines, each survey visit was undertaken during the peak period in bat activity and during good weather conditions. The results presented here are therefore considered to be an accurate representation of the general use of the property by roosting bats.

Nevertheless, bats can use roosting features intermittently throughout the year and may be present in larger or smaller numbers depending on their breeding cycle, weather conditions, and in response to disturbance. These surveys record the emergence of bats at the time of the survey visits and therefore only provide a snapshot of bat roosting activity at the site at that time. Bats may be present at other times and the results should therefore be viewed with caution.

3. Bat Survey Results

3.1 Survey Conditions

The survey was undertaken by Amy Oldham, BSc. It commenced at 20.43; half an hour before sunset. The end time of the survey was 22.28, one and a half hours after sunset, as per guidelines laid out by the Bat Conservation Trust. There was no precipitation, 30% cloud cover and no wind throughout the survey, with the temperature recorded at 17°C.

3.2 Results

No emergences were recorded by either the surveyor or the recording equipment during the survey. Figure 5 shows the quality of the recording at the darkest point of the survey.



Figure 5. Darkest point as recorded using infra-red camera during the emergence survey

Activity of commuting and foraging bats around the survey location was low, with only Common Pipistrelle (*Pipistrellus pipistrellus*) first recorded at 21.19 and then consistently throughout the survey, and Brown Long-eared Bat (*Plecotus auritus*) recorded commuting once across the property at 22.21.

4. Assessment of Findings

No bats were recorded emerging from the building and activity around the building was low, therefore it is considered highly unlikely that the features identified in the bat scoping survey are in use by roosting bats.

Given that bat species are transitory in nature however, it is not possible to state with certainty that the potentially suitable features are never used. Therefore, mitigation should be put in place as a precaution when construction commences:

- Potential roost features shall be subject to hand stripping prior to demolition. The hand stripping of roof and hanging tiles will only be undertaken in the period between mid-March and the end of October to avoid disturbing bats that could be in hibernation.
- A bat boxes such as the one shown in Figure 6 must be installed on a mature tree around the site prior to the commencement of any supervised works to ensure that any bats found can be safely placed within by a bat licenced ecologist if needed.



Figure 6. General purpose 2F Schwegler Bat Box or similar recommended to be installed around the site prior to commencement of works. Available from www.nhbs.com

5. Enhancement Opportunities

To provide a net gain for biodiversity within the proposed development, as outlined by the National Planning Policy Framework (NPPF), it is proposed that one bat box, such as a Schwegler 2F or 2FN, could be installed upon a southern or eastern external face of the new extension (close to the eaves), or on a mature tree on the property.

Keeping external lighting to a minimum is advised to prevent impacting commuting and foraging bats. Further guidance is available in Appendix 1.

6. Conclusion

As no bats have been identified emerging from or entering roosts during the survey, it is considered highly unlikely that the features identified in the bat scoping assessment are regularly used by roosting bats. As a precautionary measure, the removal all existing roof tiles should be undertaken sensitively by hand. Should bats be found at any time during the works then works should cease immediately and an ecologist contacted for advice.

Further details of legislation and legal protection with respect to bats and other protected species are given in Appendix 1.

If any protected species are found during any further works undertaken on the site, work should be stopped immediately and an ecologist must be contacted for advice.

APPENDIX 1 – Legislation and Best Practice

- **The Conservation of Habitats and Species Regulations 2017**

These regulations, referred hereafter as “the Habitats Regulations”, represent the primary method by which Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the “Habitats Directive”) is transposed for England and Wales and their territorial seas. The Habitats Directive, in conjunction with the Birds Directive (Council Directive 2009/147/EEC) forms the basis for implementation of Europe’s nature conservation policy through both habitat and species level protection. The Habitats Directive requires the designation of strictly protected European sites known as Special Areas of Conservation (SACs). Together with the Special Protection Areas (SPAs) established by the Birds Directive, these collectively form the Natura 2000 Network of protected sites. The Habitats Directive also requires the strict protection of animals and plants of Community Interest listed under Annex IV. Habitat types requiring strict protection as SACs are listed under Annex I. The conservation of animals and plants listed under Annex II requires the designation of SACs. The Habitats Regulations require that public bodies must exercise their nature conservation responsibilities to ensure compliance with the Habitats Directive. These regulations also require the conservation of natural habitats and habitats of species through the selection, designation and notification of marine and terrestrial ‘European Sites’ to be afforded protection under the Habitats Directive. The habitats and species of European Importance are listed under Annexes I and II of the Habitats Directive. The regulations also contain provision for the appropriate management of these European Sites including the control of damaging operations, special nature conservation orders and restoration orders, for example. The Habitats Regulations afford strict protection to European Protected Species of animals under Schedule 2 and plants under Schedule 5. Offences (subject to certain exceptions) include the deliberate capture, killing, disturbance or trade in these animals. Similarly plants listed under Schedule 5 are protected (subject to exceptions) from picking, collection, cutting, destruction or trade.

- **The Wildlife and Countryside Act 1981 (as amended)**

The Wildlife and Countryside Act 1981 (as amended) (WaCA) is still a leading mechanism for the legislative protection of wildlife and national parks across the United Kingdom. The WaCA draws on elements of pre-existing legislation and supports the Habitats Regulations in implementing the Bern Convention (1979) and Directive 2009/147/EC on the conservation of wild birds. Schedules within the WaCA provide a list of protected species and habitats, in addition to prohibited actions. It also contains measures for controlling invasive non-native species and amendments to a number of laws. Most notably within the scope of this report are Schedule 9 of the WaCA which lists non-native species that are already established in the wild and continue to pose a conservation threat to native biodiversity and habitats and stipulates that further releases should be regulated. Schedule 9 also includes some native species (for example, Barn Owl (*Tyto alba*)) in order to provide a level of control to ensure that releases, in particular re-introduction programmes, are carried out in an appropriate manner and biodiversity is properly safeguarded; and Schedule 14, which prohibits the introduction into the wild of any animal of a kind which is not ordinarily resident in, and is not a regular visitor to, Great Britain in a wild state, or any species of animal or plant listed in Schedule 9 of the WaCA.

- **The Natural Environment and Rural Communities (NERC) Act 2006**

The Natural Environment and Rural Communities Act imposes a Biodiversity Duty (S.40) on all public bodies to conserve biodiversity at both species and habitat levels (S40);

“Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”

Section 41 of the Act requires the publication of a list of

“living organisms and types of habitat which in the Secretary of State’s opinion are of principal importance for the purpose of conserving biodiversity.”

The list generated under Section 41 of the Act contains a number of types of habitats and species of animal and plant that have the potential to be affected by development projects of a range of sizes and impacts including lowland deciduous woodland, floodplains and calcareous grassland habitats.

The Act also establishes Natural England as the independent body to:

“ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development”.

943 species and 56 habitats of principal importance are included on the S41 list as guidance for public bodies on decisions that affect biodiversity.

- **The Hedgerow Regulations 1997**

On 1 June 1997, the Hedgerow Regulations came into force under section 97 of the Environment Act 1995 to address the dramatic decline in UK hedgerows. The regulations protect important hedgerows by limiting removal through a system of notification via local planning authorities. The regulations are aimed at countryside hedgerows in England and Wales;

Section 3.6: *“on or adjoining, common land, village greens, Site of Special Scientific Interest (which include National Nature Reserves, Special Protection Areas under the Birds Directive and Special Areas of Conservation under the Habitats Directive), Local Nature Reserves, or land used for agriculture, forestry or the breeding or keeping of horses, ponies or donkeys”*

Written permission is required from the local planning authority before the removal of any hedgerow over 20 metres and more than 30 years old. Hedgerows less than 20 metres long may also be considered if they form part of a continuous network of hedges.

The LPA will then either issue a Hedgerow Retention or Hedgerow Removal Notice within 42 days depending on whether they define the hedgerow as important or not based on the following criteria:

- “They have been in existence 30 years or more; and”
- “They satisfy at least one of the criteria set out in Part II of Schedule 1 of the Regulations.”

Exemptions to the Regulations fall into three categories:

- “small scale works;”
- “works approved under other procedures which ensure careful assessment and consideration of the impact on the local environment; and”
- “works authorised under other legislation which justify the removal of a hedgerow without first establishing its importance.”

It is an offence to remove a hedgerow subject to a retention notice, or to remove a hedgerow protected under the Hedgerow Regulations without first obtaining the required removal notice.

Updated regulations as part of the Hedgerow Regulations due in 2024 regulations will include a two metre 'buffer strip' from the centre of hedgerows with no cultivation or application of pesticides or fertilisers, and a hedge cutting ban between 1 March and 31 August to protect nesting birds. These updates are also to include over 90,000km of hedgerows being managed through 16,000 agreements in the government's Countryside Stewardship and Sustainable Farming Incentive schemes, and more than 13,000km of hedgerows created or restored using Countryside Stewardship grants.

- **The UK Post-2010 Biodiversity Framework**

The UK Post-2010 Biodiversity Framework was published on 17 July 2012. It was produced by JNCC and Defra, on behalf of the Four Countries' Biodiversity Group (4CBG), through which the environment departments of all four governments in the UK work together. It covers the period from 2011 to 2020, and was developed in response to two main drivers: the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020 and its five strategic goals and 20 'Aichi Targets', published in October 2010; and the EU Biodiversity Strategy (EUBS), released in May 2011. The framework shows how the work of the four UK countries joins up with work at a UK level to achieve the 'Aichi Targets' and the aims of the EU Biodiversity Strategy. It identifies the activities required to complement the country biodiversity strategies, and where work in the country strategies contributes to international obligations. In total, 23 areas of work were identified where all the countries agreed that they wanted to contribute to, and benefit from, a continued UK focus.

The development of the framework reflects a revised direction for nature conservation, towards an approach which aims to consider the management of the environment as a whole, and to acknowledge and take into account the value of nature in decision-making. The framework sets out the common purpose and shared priorities of the UK and the four countries, and, as such, is a hugely important document, which is to be owned, governed, and implemented by the four countries.

- **National Planning Policy Framework (NPPF)**

This framework acts as guidance for planning authorities (LPAs) in England to form Local Plan policies in favour of sustainable development as part of the government's reforms to increase the accessibility of the planning system and promote long term sustainable growth.

The framework states that "planning policies and decisions should contribute to and enhance the local environment" (paragraph 170).

Chapter 15 of the framework focusses on habitats and biodiversity. Specifically, paragraph 175 states:

"...when determining planning applications, local planning authorities should apply the following principles:

- if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused"*
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments) should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Scientific Interest (SSSI);*
- development proposals whose primary objective is to conserve or enhance biodiversity should be supported;*
- opportunities to incorporate biodiversity improvements in and around developments should be encouraged;*
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists"*

The NPPF also states section 185 in regard to planning applications:

"To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and

areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

- **Circular 06/2005: Biodiversity and Geological Conservation**

The Circular 06/2005 complements the NPPF by advising on how the law relates to planning and nature conservation in England, with particular reference to designated sites and protected species;

“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision” (Paragraph 99).

However;

“developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development.”

Part IV also reminds LPAs and developers that licences and mitigation measures may be required in addition to planning permissions if protected species are to be affected by the development

“The breach of protected species legislation can often give rise to a criminal offence”
(Paragraph 101).

- **Bats**

All British bats are “European Protected Species” (EPS) and listed on Annex II and Annex IV of the EC Habitats Directive. The Directive is transposed into UK law through the Conservation of Habitats and Species Regulations 2017. The following actions affecting bats are prohibited under the legislation:

- deliberate capture, injury or killing of a bat;
- deliberate disturbance of a bat and in particular disturbance which is likely to impair their

ability:

- to survive, to breed or reproduce, or to rear or nurture their young, or
- in the case of animals of a hibernating or migratory species, to hibernate or migrate;
- or to affect significantly the local distribution or abundance of the species to which

they belong.

- damage or destruction of a breeding site or resting place;
- possessing, controlling transporting, selling or exchanging, or offering for sale or exchange any bat or any part of a bat or anything derived from one.

-

Bats are also afforded protection from intentional or reckless 'disturbance' by the Wildlife and Countryside Act 1981 (as amended). The deliberate or reckless obstruction of access to a structure or place used by bats for shelter and protection is also an offence under the Act.

- **Birds**

All wild birds in the UK are afforded protection under the Wildlife and Countryside Act 1981 (as amended). This protection includes killing, injuring or taking wild birds as well as taking, damaging or destroying bird nests in use or being built, and taking or destroying eggs. Birds listed under Schedule 1 of the Act are afforded additional protection from disturbance during nesting and offences relating to these birds are subject to special penalties. The nest sites of birds listed under Schedule ZA1 of the act are afforded strict, year-round protection even when the nests are not in active use.

- **Reptiles**

All species of native reptiles are protected against killing or injury under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). The Sand Lizard (*Lacerta agilis*) and Smooth Snake (*Coronella austriaca*) are further protected under The Conservation of Habitats and Species Regulations 2017 and The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 against capture or disturbance and the places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed.

- **Great Crested Newts**

The Great Crested Newt and its habitat are protected under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 and The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. This legislation makes it an offence to deliberately kill, injure or capture a Great Crested Newt; deliberately disturb a Great Crested Newt; damage, destroy or obstruct access to a structure used for shelter or protection by a Great Crested Newt; or possess or transport a Great Crested Newt. Great Crested Newts are also afforded protection from intentional or reckless 'disturbance' by the Wildlife and Countryside Act 1981 (as amended). The deliberate or reckless obstruction of access to a structure or place used by great crested newts for shelter and protection is also an offence under the Act. This applies to both aquatic and terrestrial habitat

- **Badgers**

Badgers and their setts are protected under the Protection of Badgers Act 1992 which makes it an offence to kill, injure or possess a badger; interfere with, damage or destroy a Badger sett including obstructing access to a badger sett; cruelly treat or harm a Badger; or disturb a Badger in a sett.

- **Otters**

Otters (*Lutra lutra*) and their resting places are protected under the Wildlife and Countryside Act 1981 (as amended) and the The Conservation of Habitats and Species Regulations 2017 and The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. This legislation makes it an offence to deliberately kill, injure or capture an Otter; deliberately disturb an Otter in their breeding or resting places; damage, destroy or obstruct access to their resting or breeding places.

- **Water Voles**

Water Voles (*Arvicola amphibius*) are protected under the Wildlife and Countryside Act 1981 (as amended) from killing or taking by certain prohibited methods. Their breeding and resting places are fully protected from damage, destruction or obstruction; it is also an offence to disturb them in these places.

- **Common Dormouse**

Common dormice are protected under both The Conservation of Habitats and Species Regulations 2017 and The Conservation of Habitats and Species (Amendment)(EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981(as amended). Dormice and their breeding sites and resting places are fully protected. Without a licence it is an offence for anyone to deliberately disturb, capture, injure or kill them. It is also an offence to damage or destroy their breeding or resting places, to disturb or obstruct access to any place used by them for shelter. It is also an offence to possess or sell a wild Dormouse.

- **White-clawed crayfish**

White-clawed Crayfish (*Austropotamobius pallipes*) are protected under Schedule 5 of the Wildlife and Countryside Act 1981(as amended) protecting them from harm, disturbance and capture without an appropriate licence. It is illegal to buy or sell White-clawed Crayfish whether alive or dead.

- **Invertebrates**

Three UK invertebrate species are protected under The Conservation of Habitats and Species Regulations 2017 and The Conservation of Habitats and Species (Amendment)(EU Exit) Regulations 2019; the Large Blue butterfly (*Phengaris arion*), Fisher's Estuarine moth (*Gortyna borelii*) and Little Ramshorn Whirlpool snail (*Anisus vorticulus*). It is an offence for anyone to deliberately disturb, capture, injure or kill them. It is also an offence to damage or destroy their breeding or resting places, to disturb or obstruct access to any place used by them for shelter. It is also an offence to possess or sell these species. Approximately 400 further invertebrate species are listed as 'Species of Principle Importance under Section 41 of the NERC Act.

- **Invasive Plant Species**

It is prohibited to plant or otherwise cause to grow in the wild any species listed on Schedule 9 of the Wildlife and Countryside Act 1981(as amended). The Environmental Protection Act 1990 also classifies certain invasive plants as controlled waste which must be disposed of safely at an appropriately licensed landfill site, in particular Japanese Knotweed (*Reynoutria japonica*). Under section 57 of the Anti-social Behaviour, Crime and Policing Act 2014, if an individual or an organisation fails to control an invasive plant species which is having a detrimental effect

on the quality of life of those in the locality then a notice can be issued after a mandatory written warning has been served. Breach of this notice, without reasonable excuse, would be a criminal offence, subject to fixed penalty notice (a penalty of £100) or prosecution. On summary conviction an individual could be liable to a level 4 fine and an organisation could be liable to a fine not exceeding £20,000.

- Definitions of Statutory and Non-Statutory Sites**

Name	Statutory/Non-statutory	Definition
SAC – Special Area of Conservation	Statutory	Strictly protected sites designated under the EC Habitats Directive, that will make a significant contribution to conserving habitats or species identified in Annexe I and II of the Directive (as amended).
SPA – Special Protection Area	Statutory	Strictly protected sites classified in accordance with Article 4 of the EC Birds Directive. They are classified for rare and vulnerable birds (as listed on Annex I of the Directive).
SSSI – Site of Special Scientific Interest	Statutory	SSSIs provide statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features.
NNR – National Nature Reserve	Statutory	NNRs contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats or to provide opportunities for scientific study.
LNR – Local Nature Reserve	Statutory	LNRs are declared and managed for nature conservation, and provide opportunities for research and education, or simply enjoying and having contact with nature.
Ramsar – Ramsar Site	Statutory	Ramsar sites are wetlands of international importance designated under the Ramsar Convention.
LWS – Local Wildlife Site SINC – Site of Importance for Nature Conservation	Non-statutory	Areas of land with significant wildlife value for the local area.
CWS – County	Non-statutory	Areas of land with significant wildlife value for the county

Wildlife Site		
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APPENDIX 2 – Reducing Impacts of Artificial Light

External lighting has been proven to have a negative impact on foraging and commuting bats, as well as impact other nocturnal species such as invertebrates, birds and mammals such as Badger and Hedgehog. The Bat Conservation Trust has guidelines³ which should be referred to when designing lighting schemes for proposed developments. In areas where the introduction of lighting will have a significant impact on the surrounding environment such as rural locations it is recommended that an ecologist is consulted prior to a lighting scheme being designed. The key measures recommended by the guidelines are as follows:

- Avoid unnecessary exterior lighting where possible
- Maintain a balance between appropriate lighting levels and the impact that exterior lighting will have on wildlife
- Comply with existing legislative buffers and avoid lighting key habitats and features altogether.
- Avoid lighting key habitats and features altogether
- Comply with guidance on illuminance levels and buffers

It may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required. Baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved. As a condition of planning, post- completion

³ Bat Conservation Trust and Institute for Lighting Professionals (2023) Guidance note 8. Bats and Artificial Lighting. Available [online](#)

lighting surveys by a suitably qualified person should be undertaken and a report produced for the local planning authority to confirm compliance. Any form of non-compliance must be clearly reported, and remedial measures outlined. Ongoing monitoring may be necessary, especially for systems with automated lighting/dimming or physical screening solutions.

The Bat Conservation Trust recommends the following specifications for lighting on developments to prevent disturbance:

- Lighting spectra: peak wavelength >550nm
- Colour temperature: <2700K (warm)
- Reduction in light intensity
- Minimal UV emitted
- Upward light ratio of 0% and good optical control

APPENDIX 3 – Conditions of use

This report has been prepared by Libby Morris, with all due diligence and care within the terms of the Contract with the client. This report only becomes the property of the client once payment for it has been received in full. The author disclaims any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client, and the author accepts no responsibility to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.