

LHB Ecology

Bat Emergence Survey

Site: 12 Oakmount Road, Chandler's Ford, Eastleigh,
Hampshire SO53 2LH

Client: Jack Jeffery

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Limitations

This report has been prepared exclusively for the use of the above-named client or their agents. Site assessment and reports have been carried out for the client in accordance with written agreement and with the diligence and skills that are typical of an ecological consultant.

The conclusions and subsequent recommendations contained in this report are partly based upon information provided by third parties. Information obtained from third parties has not been independently verified by LHB Ecology.

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Any assessments made are based upon current site condition with the assumption that the site will continue to be used for the current purpose without significant change prior to any development. Findings and recommendations within this report are based on the professional opinion of qualified and experienced ecological consultants and do not constitute professional legal advice.

Guidelines

This assessment has been designed to meet:

- Bat Conservation Trust (2023): Bat Surveys for Professional Ecologists — Good Practice Guidelines, 4th edition; and
- British Standard 42020 (2013) 'Biodiversity – Code of Practice for Planning and Development'.

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1.0 Executive Summary

1.1 Summary

- 1.1.1 LHB Ecology undertook a Bat Emergence Survey (BES) at 12 Oakmount Road, Chandler's Ford, Eastleigh, Hampshire SO53 2LH (hereinafter referred to as 'the site') to determine a presence or likely absence of roosting bats. The survey was completed on 16 May 2024.
- 1.1.2 The site comprises a dwelling, outbuildings, garden areas and hedgerows boundaries. The development site is bounded by residential properties and associated infrastructure.
- 1.1.3 The development proposals are for two-storey extension of the existing dwelling.
- 1.1.4 **The BES indicated a likely absence of bat roosts in B1. No further surveys or European Protected Species Mitigation Licence is required to enable the proposed development to proceed lawfully.**
- 1.1.5 In the highly unlikely event of a bat being found, works must cease immediately and a suitably qualified ecologist contacted for advice.

See section 5.0 Conclusions, Impacts and Recommendations for full evaluation.

2.0 Introduction and Background

2.1 Background

- 2.1.1 LHB Ecology undertook a Bat Emergence Survey (BES) at 12 Oakmount Road, Chandler's Ford, Eastleigh, Hampshire SO53 2LH (hereinafter referred to as 'the site') to determine a presence or likely absence of roosting bats. The survey was completed on 16 May 2024.
- 2.1.2 The BES was informed by the Bat Conservation Trust publication: *Bat Surveys – Good Practice Guidelines* (Collins, J. 2023).
- 2.1.3 A Preliminary Ecological Appraisal (PEA) was carried out at the site in December 2023 by LHB Ecology. The report recommended one bat emergence survey to confirm a presence/likely absence of roosting bats in the noted external features on the survey building.

2.2 Project Description

- 2.2.1 The development proposals are for two-storey extension of the existing dwelling.

2.3 Site Context

- 2.3.1 The site is centred on National Grid Reference SU 4409 2106 and has an area of approximately 0.03ha. The site consists of a dwelling, outbuildings, garden areas with hedgerows along the site boundary. The site is bounded by a residential property to the southeast, scattered trees to the northwest and roads.

2.4 Scope of the Report

- 2.4.1 This report describes the findings of the survey including any observed bat activity and roost locations, if present. Survey data gathered from the BES and any previous ecological surveys was used in this report to inform an assessment of the impacts on bats and inform mitigation and enhancement measures. It provides information on constraints to the proposals as a result of roosting bats, and summarises the requirements for any further surveys, to inform subsequent mitigation proposals, achieve planning or other statutory consent, and to comply with wildlife legislation.
- 2.4.2 The aim of the assessment was to characterise any roosts present by recording bat species and numbers, roost locations and access points, and to determine how bats may use the site and surrounding habitats, following good practice guidelines. To achieve this, the following steps have been taken:
- A desk study has been carried out, including the use of freely available resources such as Google Earth and the MAGIC database.
 - A field survey has been undertaken, including an external and internal inspection of the building.
 - An assessment of likely impacts on any known roosts has been provided, based on the development proposals.

- Recommendations for further survey and assessment have been made, along with advice on European Protected Species Mitigation Licensing (EPSML) if appropriate.

2.4.3 A survey plan is presented in Appendix 1, the proposed Project Plan is included in Appendix 2 (where available), NVA screenshots are in Appendix 3 and a summary of relevant legislation can be found in Appendix 4.

2.5 Legislation

2.5.1 The purpose of the survey was to identify any ecological constraints, specifically bats, to the proposed works. Bats are protected by the following legislation:

- The Wildlife and Countryside Act 1981 as amended
- The Natural Environment and Rural Communities Act 2006
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

2.5.2 Further details on the above legislation and the effects of developments are provided in Appendix 4.

2.5.3 A European Protected Species Mitigation Licence (EPSML) may need to be obtained prior to development in the event of the proposed works having an impact on bats and their roosts. Further consideration of the requirement for an EPSML is provided in section 5.3.

3.0 Methodology

3.1 Desk Study methodology

3.1.1 Existing bat records relating to the site and a surrounding 2 km radius (the study area) were not requested from the Local Records Centre. The PEA survey report (LHB Ecology, 2023) provides a summary of granted EPSL records and habitat data and should be read in conjunction with this report.

3.1.2 A review of the following information sources has also been undertaken to inform the assessment:

- Landscape structure using aerial images from Google Earth
- Designated sites, habitat and granted European protected species licencing data held on magic.gov.uk
- Information on the surrounding area using OS Opendata 2022

3.2 Site Survey Methodology

3.2.1 The surveys were undertaken by Joe Slade, principal ecologist with over ten years' experience of conducting these surveys and Toby Bowman, assistant ecologist with over 10 years' experience of conducting these surveys. The location of each surveyor during the survey is shown in Appendix 1. The survey methods were informed by the recommendations within the PEA survey report (LHB Ecology, 2023). The survey requirements from the PEA survey report are outlined in Table 3.2 below.

Table 3.2: Recommendations from the PEA Survey Report (LHB Ecology, 2023)

Ecological Receptor	Recommendations
Bats	<i>One dusk emergence survey should be undertaken to suggest the presence or likely absence of roosting bats in B1. The survey should be undertaken during the optimal bat survey season (May to August). Two surveyors should be utilised, to provide sufficient coverage of all elevations of the building and the noted features. If bat roosts are confirmed, further bat emergence surveys will be required to inform a European protected species mitigation licence application.</i>

- 3.2.2 The survey was completed during optimal weather conditions when bats are most active i.e. when temperatures were above 10°C, with no heavy rain or strong winds, as these adverse weather conditions can impact upon bat emergence/re-entry times and activity. Experienced surveyors were positioned around the building on the survey ensuring that all elevations and roof sections with suitable roosting features could be clearly observed. Particular attention was paid to the areas of the building identified as providing suitable access points to bat roosts. Each surveyor was assigned an area of the building to observe for the duration of the survey. Surveyors used heterodyne and frequency division bat detectors, and Wildlife Acoustics Echo Meter Touch 2 (EMT2) detectors. Bat echolocation calls recorded during the survey were analysed using Wildlife Acoustics sound analysis software Kaleidoscope V5.4.8 when required. Surveyors also used head torches and a survey record sheet for recording all activity observed during the survey. Each surveyor was also provided with a handheld radio for communication between surveyors to assist with confirming ambiguous bat activity e.g. a bat emergence or a bat passing over the building. In addition, 1x Nightfox Red and 1x Nightfox Whisker infrared cameras were used as a Night Vision Aid (NVA) to supplement the survey effort (see Appendix 3 for the NVA screenshots). Additional IR lamps were used to ensure that all suitable roosting features were illuminated during the surveys, where necessary. In accordance with the latest bat survey guidelines (Collins, J. 2023) dusk emergence surveys commenced 15 minutes before sunset and continued for 1½ - 2 hours after sunset depending upon bat activity and surveyor visibility.

3.3 Limitations – evaluation of the methodology

- 3.3.1 The survey was completed in line with best practice guidance to confirm presence or likely absence of bat roosts and characterise any roosts present. Survey data was collected across a period within the bat activity season and therefore the findings are indicative of the period in which the survey was completed. The use of the site by bats at all times cannot be established based on this information.
- 3.3.2 No specific limitations were recorded during the survey, with full access to all areas of the site.

4.0 Results and Evaluation

4.1 Survey Results

4.1.1 The results of the emergence surveys are provided in the tables below.

Table 4.1.1: Bat Emergence Survey Results 16/05/24

Survey Start Time: 20:30 Survey End Time: 22:30 (sunset time: 20:51)		
Weather Conditions	Start: Temp: 14°C Relative Humidity: 85% Cloud Cover: 80% Wind: 2 mph Precipitation: None	End: Temp: 13°C Relative Humidity: 90% Cloud Cover: 80% Wind: 2 mph Precipitation: None
Surveyor and Location	Surveyor 1 and IR NVA 1: Joe Slade – over 10 years’ experience of conducting bat surveys (observing the northeastern and northwestern elevations and roof structure of B1). Surveyor 2 and IR NVA 2: Toby Bowman – over 10 years’ experience of conducting bat surveys (observing the northwestern and southwestern elevations and roof structure of B1).	
Observations <i>Surveyor 1:</i> Common pipistrelle activity commenced at 21:02, with single bat passes observed at 21:19, 21:25, 21:43, 21:49 and 21:53. Bats were seen passing across the rear garden and heading west. <i>Surveyor 2:</i> Unseen common pipistrelle pass at 21:20. Common pipistrelle passes were observed at 21:33, 21:34 and 21:55. These brief passes were to the south and southwest of the site. IR NVA recording: The NVA footage that was captured during the survey revealed no bat emergences.		

5.0 Conclusions, Impacts and Recommendations

5.1 Informative Guidelines

5.1.1 In the event of bat roosts being present, the bat surveys completed at the site and their findings are used to characterise the roosts based on the species and number of bats recorded, among other biotic and abiotic factors. Appropriate mitigation and compensation can be designed based on the findings of the surveys. Additionally, the survey findings can inform a European protected species mitigation licence (EPSML) application to Natural England, if required. The Bat Mitigation Guidelines (English Nature, 2004) and the Bat Conservation Trust publication Bat Surveys for Professional Ecologists – Good Practice Guidelines (Collins, J. (Ed) 2023) define types of bat roosts as follows:

- *Maternity roost*
A place where breeding females gather to form a nursing colony from May onwards. Maternity roosts typically disperse between August and September.
- *Day roost*
A place used to rest during the day. Used by a single bat or small group of bats.
- *Night roost*
A place used to rest during the night. Night roosts can be used on occasion by a single bat or by an entire colony.
- *Mating roost*
A place used by male bats in late summer to winter to attract females.
- *Satellite roost*
A place used by breeding females which is as an alternative to the main maternity site.
- *Transitional roost*
A place used either prior to or immediately after hibernation. Used for a few days or up to several weeks.
- *Hibernation roost*
A place used by hibernating bats, typically from October to March. Ideally, these sites have consistent low temperatures and high humidity.
- *Feeding roost*
A place which is sheltered where a single bat or small number of bats may feed and rest temporarily at night.
- *Swarming site*
A place where a large numbers of bats of different species gather. This occurs between August and November, around caves and mines.

5.2 Conclusions and Impact Assessment

5.2.1 The BES concludes a likely absence of bat roosts within B1.

5.2.2 No impacts on bats or their roosts are anticipated.

5.2.3 No further surveys or European Protected Species Mitigation Licence will be required to enable the proposed works to proceed lawfully.

5.2.4 No additional external lighting is proposed. As such, no impacts on bat foraging activity are anticipated.

5.3 Recommendations

5.3.1 The following recommendations are made based on the findings during the BES and any previous surveys.

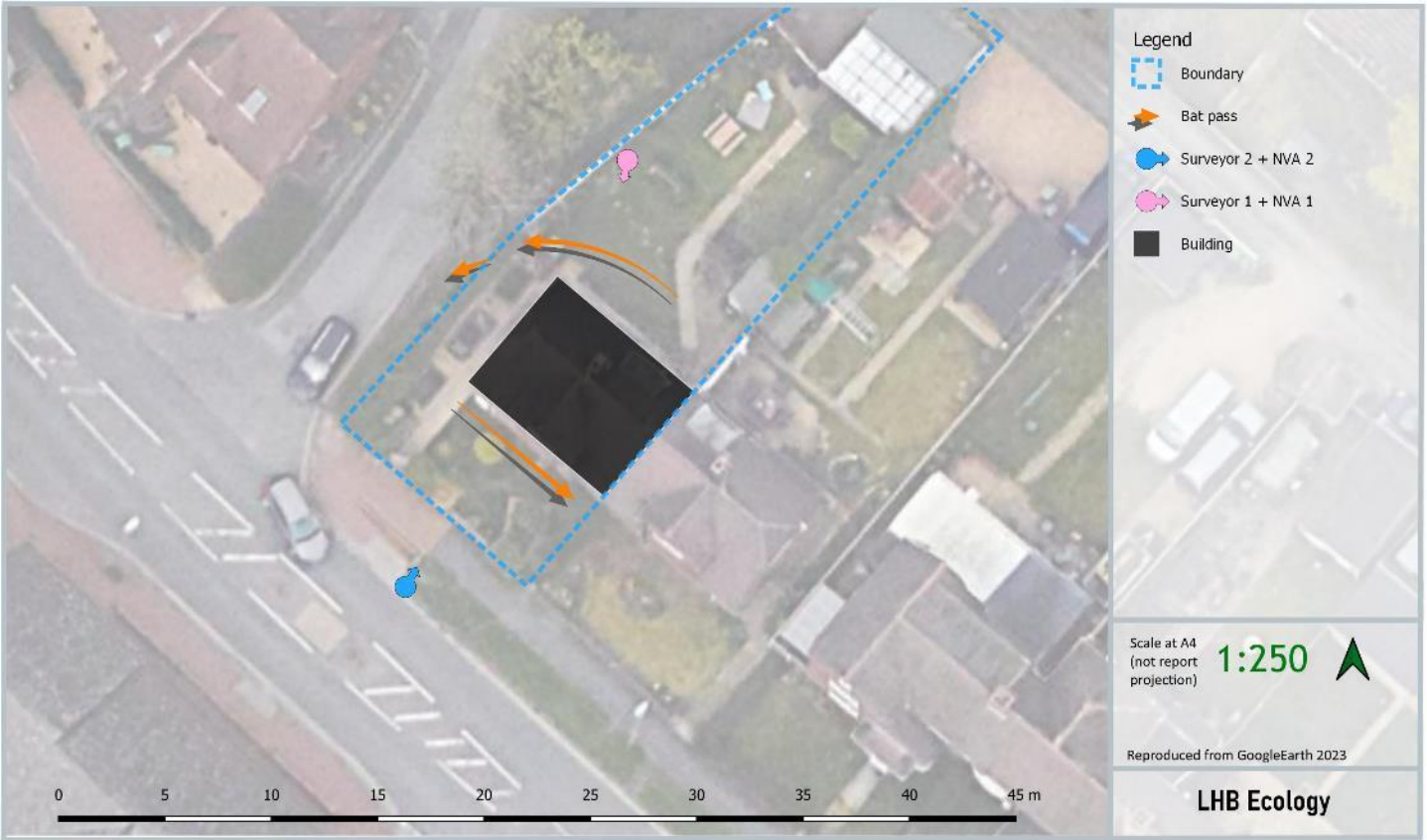
Ecological Receptor	Recommendations
Bats	To avoid and minimise the impacts of new lighting on bat foraging and commuting habitat, the following measures will be implemented on the developed site (in line with Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT) bats and artificial lighting guidance note 08/23): ➤ <i>No new lighting to be installed adjacent to the woodland located to the south of the site</i> ➤ <i>All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used.</i> ➤ <i>LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.</i> ➤ <i>A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.</i> ➤ <i>Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).</i> ➤ <i>Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.</i> ➤ <i>The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by the lighting professional.</i> ➤ <i>Column heights should be carefully considered to minimise light spill.</i> ➤ <i>Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light.</i> ➤ <i>Luminaires should always be mounted on the horizontal, i.e. no upward tilt.</i> In the highly unlikely event of a bat being found, works must cease immediately and a suitably qualified ecologist contacted for advice.
Enhancements	The site can be enhanced to benefit crevice dwelling bats by installing a bat box/integrated bat box within the fabric of the building during construction. Integrated bat boxes should be positioned high on

	the building, close to the eaves and facing south or southwest and located away from artificial sources of light.
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6.0 Bibliography

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- Garland & Markham (2008) Is important bat foraging and commuting habitat legally protected?
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- JNCC (2004) Bat Workers Manual, 3rd Edition.
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Appendix 1 – Bat Emergence Survey Map



Appendix 2 – Proposed plan



Appendix 3 – NVA Screenshots



NVA 1 view at the start of the survey
(pictured opposite)



NVA 1 view at the end of the survey
(pictured opposite)



NVA 2 view at the start of the survey
(pictured opposite)



NVA 2 view at the end of the survey
(pictured opposite)

Appendix 4 – Legislation

6.1 Legal protection

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the Birds Directive). The WCA 1981 gives protection to native species.

6.1.1 Bats

Bats are afforded the following additional protection through Schedule 5 of the WCA 1981:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats)
- Deliberate disturbance of bat species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Significance for developments:

Works which are liable to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require a European Protected Species Mitigation Licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures.

6.2 The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

6.3 Exceptions and Licensing

A European Protected Species Mitigation Licence (EPSML) issued by Natural England will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those

activities mentioned above (e.g. survive, breed or rear young). Licences permit otherwise unlawful activities and can only be granted for certain purposes. An EPSML also enables appropriate mitigation measures to be put in place and their success to be monitored. Important foraging areas or commuting routes that are associated with roosting sites can be regarded as being afforded protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008).

There are 17 species of bat breeding in England and Natural England issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

Licences are issued for specific purposes stated in the Regulations, if the following three tests are met:

- The purpose of the work meets one of those listed in the Habitats Regulations (see below);
- That there is no satisfactory alternative;
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

The Habitats Regulations permits licences to be issued for a specific set of purposes including:

- include preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
- scientific and educational purposes,
- ringing or marking
- conserving wild animals

Development works fall under the first purpose and Natural England issues bat mitigation licences for developments.

6.4 Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure or take any wild bird
- Intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- Intentionally take or destroy an egg of any wild bird
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- Intentionally or recklessly obstruct or prevent any wild bird from using its nest (Scotland only)

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC) and are commonly referred to as “Schedule 1” birds.

This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young
- Intentional or reckless disturbance of dependent young of such a bird

Significance for developments:

Works should be planned to avoid the possibility of killing or injuring any wild bird or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

6.5 National Planning Policy (ENGLAND)

National Planning Policy Framework

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act, 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

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