Proposed Replacement Dwelling
Land to South of Wenham Hill, Great Wenham

Ecological Survey Report – March 2020

MHE Consulting Ltd

Report produced by
MHE Consulting Ltd
Mill House
Homersfield
Harleston
IP20 0ET
01986 788791
07766 771305
millhouseecology@gmail.com

Clients
Jonathan Hunt 1988 Children Trust

Architects
Roger Balmer Design
Fountain House Studio
The Street
East Bergholt
CO7 6TB
01206 299477
enquiries@rogerbalmerdesign.co.uk

Contents Amendment Record

Report Number: WENHAMHILL/2020/ESR/003

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Report drafted	19/03/20	C. Whiting
1	1	Final version issued	19/03/20	C. Whiting
1	2	Amended report	25/03/20	C. Whiting

Contents

Executive Summary

Figures

Appendices

Executive Summary

MHE Consulting Ltd was instructed to undertake an ecological survey of a site at Wenham Hill, Great Wenham, Suffolk (TM 07660 37133; Figure 1) where it is proposed to build a new dwelling. If planning permission is granted an existing open-fronted barn with approval (Class Q) for conversion to a dwelling would be demolished.

Significant landscaping proposals are included as part of the proposed development including green roofs, some native tree and shrub planting along with bat and bird boxes, some stag beetle loggeries and a grass snake egg-laying heap.

The proposed development site comprises an area of parkland of mostly species poor grassland with some immature sweet chestnut (*Castanea sativa*) trees and scattered mature oak (*Quercus robur*) trees. The site will be accessed via an existing track through the parkland. A timber framed

No ponds exist within the site. or close to the application site, but a lake and 2 ponds are located within 250m of the site (Figure 1). The lake supports trout (Mr Hunt *personal communication*) whilst ponds P1 and P2 are likely to also support fish and are considered unsuitable for great crested newts (GCNs) (*Triturus cristatus*). An area of adjacent mixed plantation woodland to the north of the application site provides terrestrial foraging and refuge habitat for amphibians and widespread reptiles such as grass snake (*Natrix helvetica*) with numerous brash piles present.

An oak tree T1 is located immediately to the north-west of the proposed new dwelling and curtilage which contains a couple of potential holes which could support roosting bats. The woodland, lake and ponds offer optimal bat foraging habitat. The open-fronted barn contained no evidence of roosting bats or notable nesting or roosting bird species such as barn owl (*Tyto alba*) (Sch. 1).

Recommendation are made to avoid and mitigate potential ecological impacts including timing of work and implementation of good working practice. Compensatory habitat creation is outlined to achieve No Net Loss of biodiversity while ecological enhancements are recommended to deliver a Biodiversity Net Gain. Standard planning conditions are recommended to secure the measures proposed.

1 Introduction

1.1 Brief

MHE Consulting Ltd was originally instructed to undertake an ecological survey of a barn on land south of Wenham Hill, Great Wenham, Suffolk (TM 07655 37283) where it was proposed to convert an existing barn to a residential dwelling. A Class Q Approval (DC/19/01331) was granted by Babergh District Council (BDC).

A planning application for a detached dwelling (TM 07660 37133, Figure 1) to the south-east of the approved barn conversion is to be submitted to BDC. The barn covered by the Class Q approval would be demolished as part of the application.

Biodiversity enhancements (see Table 5.1) are also proposed including the provision of green roofs, native tree and hedgerow planting, bird and bat boxes and flowering lawns. The ecological survey and this report are necessary to:

- Identify the existing ecological value of the site;
- Identify the need for further (e.g. protected species) surveys;
- Assess any potential adverse impacts of the proposed development on ecological features of the site or nearby designated sites; and
- Make recommendations for mitigation (if required) as well as biodiversity enhancement opportunities.

This report will be used to develop the proposals as necessary, and to form the basis for the submission of biodiversity information with any planning application. It reflects the site at the time of the survey and should be reviewed and revised as appropriate.

1.2 Site location and description

The proposed development site (Photos 1 to 5, Figure 2) comprises an area of parkland with grassland and scattered trees. An area of plantation woodland exists to the north. The site will be accessed via an existing track through the parkland (Photos 3 and 4). A small open fronted barn to the north east of the location for the proposed dwelling (Photos 6 and 7).

Photos referred to within this report are provided within Appendix A1.

2 Planning policy and legislation

2.1 Introduction

This chapter summarises the key legislation and policies relevant to assessing the biodiversity impacts of the scheme upon habitats and species.

2.2 Planning policy

2.2.1 National Planning Policy Framework (NPPF)

The National Planning Policy Framework was originally published in 2012 and recently revised in February 2019. The document sets out the Government's planning policies for England and provides guidance on how these policies are expected to be applied. It provides a framework for, and must be taken account of within, locally prepared plans for housing and other development, and is a material consideration in planning decisions.

An overarching objective of the NPPF, which aims to secure net gains, is to contribute to protecting and enhancing the natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

The full NPPF is available to view online using the gov.uk website: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779764/NPPF_Feb_2019_web.pdf Policies of particular relevance to development and biodiversity include 170, 175, 176 and 177.

170. Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

175. When determining planning applications, local planning authorities should apply the following principles:

a) 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;

b) development on land within or outside a Site of Special Scientific Interest (SSSI), 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 Special Scientific Interest;

c) 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; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

176. The following should be given the same protection as habitats sites:

a) potential Special Protection Areas (SPA) and possible Special Areas of Conservation (SAC);

b) listed or proposed Ramsar sites; and

c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

177. The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site is being planned or determined.

2.2.2 *Local Plan*

Adopted local plans provide the framework for development across England, and include policies related to conserving and enhancing the natural environment. Planning policies and supporting documents that are used to plan, deliver and monitor development across the Babergh District area can be found at https://www.midsuffolk.gov.uk/planning/planning-policy/adopted-documents/babergh-district-council/.

2.3 Legislation

2.3.1 *Natural Environment and Rural Communities (NERC) Act 2006*

Section 40 places a duty on every public body in exercising its functions, to have regard to the purpose of conserving biodiversity; this includes restoring or enhancing populations or habitats. A key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and public-sector decision making. S*pecies and habitats of principal importance* in this respect are those published under Section 41 ("S. 41") of the NERC Act 2006.

2.3.2 *Wildlife and Countryside Act 1981 (as amended)*

Rare and scarce habitats and species are afforded varying levels of protection under the Wildlife and Countryside Act 1981 (as amended) (hereafter "WCA 1981"). Some species and groups are afforded full protection (e.g. Schedule 1 bird species, bats), whilst others receive partial protection (e.g. widespread reptiles). Section 3.1 provides further detail relevant to this scheme. Species which fall under the protection of this legislation are referred to by their relevant schedule ("Sch.") within the act, i.e. "Sch. 1" (birds), "Sch. 5" (other animals), or "Sch. 8" (plants).

Invasive plant species such as Japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzanium*) are listed on Schedule 9 of the WCA 1981. It is an offence to plant or otherwise cause these species to grow in the wild and this includes the development of sites such that the plant colonises land owned by a third party.

2.3.3 *The Countryside and Rights of Way (CROW) Act 2000*

The CROW Act 2000 strengthened and updated elements of the WCA 1981, and gave a statutory basis to biodiversity conservation, requiring government departments to have regard for biodiversity in carrying out its functions and to take positive steps to further the conservation of listed habitats and species. It strengthened the protection of Sites of Special Scientific Interest (SSSI) and threatened species. Many of its provisions have been incorporated as amendments into the WCA 1981 and some have been superseded by the NERC Act 2006.

2.3.4 *The Conservation of Habitats and Species Regulations 2017*

The Conservation of Habitat and Species Regulations 2017 (hereafter referred to as the Habitat Regulations 2017) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), and elements of the EU Wild Birds Directive, into national law. The Habitat Regulations 2017 provide for the designation and protection of 'European sites' (Special Protection Areas, SPAs, and Special Areas of Conservation, SACs), the protection of 'European Protected Species' ("EPS"), and the adaptation of planning and other controls for the protection of European Sites.

They have recently been amended by the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019, which continue the same provision for European protected species, licensing requirements, and protected areas after Brexit.

Under the Regulations, competent authorities i.e. any Minister, government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the relevant EC Directives.

2.3.5 *Protection of Badgers Act 1992*

The Protection of Badgers Act 1992 (hereafter "PBA 1992") consolidates and improves upon the previous Badgers Act 1973, Badgers Act 1991, and Badgers (Further Protection) Act 1991. Under the PBA 1992 (except when holding a licence to do so) it is illegal for a person to wilfully; kill, injure, take, posses, sell, or otherwise cruelly treat a badger. It is also illegal to dig out, damage, destroy, or obstruct entry to setts (including by use of dog(s)). Further information on offences, exceptions, and penalties are listed on the PBA 1992 on legislation.gov.uk.

3 Survey methodology

3.1 Desk survey

The following data sources were consulted to assess the potential for the application site to support protected or notable habitats/species:

- Aerial photos, Ordnance Survey maps, Natural England open source data, and the MAGIC website (http://magic.defra.gov.uk/): These were used to identify habitat types including priority habitats, suitability for particular species/groups, and the locality of nationally and internationally designated sites; and
- Historical SBIS biological records: species and locally designated site records within 2km of the sites.

From this exercise, it was concluded that the following legally protected species/groups may be present on the sites and/or land immediately adjacent:

- Amphibians including great crested newt (GCN) (*Triturus cristatus*)[1] and reptiles such as grass snake (*Natrix helvetica*)[2];
- Reptiles including slow-worm (Anguis fragilis) and grass snake (*Natrix helvetica*);
- Mammals including badgers (*Meles meles*)[3] and bats[2];
- Breeding birds[4] including Red and Amber status[5] species; and
- S. 41[6] list habitats such as hedgerows, and species such as hedgehog (*Erinaceus europaeus*).

In the context of the setting and nature of the development, the 'Zone of Influence' (ZoI) of the scheme is considered restricted to habitats on the site and species within 250m of the site boundary.

3.2 Field survey

A site walkover was undertaken (15th October 2019) to 1) record habitats present and 2) assess the suitability of habitats present for protected and notable species. A list of vascular plants and a description of the vegetation was made, including the location and extent of Schedule 9 plants.

The open-fronted barn (Figure 2) that will be demolished if planning permission for the new dwelling is granted was inspected for the evidence of roosting bat and notable birds on the 5th March 2019 (MHE Consulting Ltd, 2019). It was re-inspected on the 15th October 2019.

Photos of the habitats present, and any field signs are provided in Appendix A1.

[1] GCNs and all species of bats receive full protection under the WCA 1981 and Habitats Regulations 2017.
[2] Widespread amphibians and reptiles receive partial protection under the WCA 1981.
[3] Badgers and their setts are afforded protection by the PBA 1992.
[4] All wild birds, their nests and eggs are protected under the WCA 1981 (as amended), level of protection varies per species.
[5] The conservation statuses of UK bird species are listed within the Birds of Conservation Concern 4 (Eaton *et al.*, 2015).
[6] S. 41 of the NERC Act 2006 lists 'habitats and species which are of principal importance for the conservation of biodiversity in England'.

3.2.1 *Habitats and vascular plants*

The site was walked with all distinct vegetation types and habitats identified, and care taken to record as many species as possible.

3.2.2 *Amphibians and reptiles*

a) Amphibians

The terrestrial habitat suitability of the site was assessed with respect to refugia and foraging habitat based on the known habitat preferences of GCNs and widespread amphibians such as common frog (*Rana temporaria*), smooth newt (*Lissotriton vulgaris*) and common toad (*Bufo bufo*).

No waterbodies are present on the application site. However, a fishing lake (W1) and 2 ponds P1 to P2 are located within the 250m ZoI (Figure 1) to the south and south-west of the application site.

b) Reptiles

Terrestrial habitat on and immediately adjacent to the application site was assessed with regards to the known habitat preferences of the widespread reptile species.

3.2.3 *Badgers*

The site was surveyed for evidence of badgers (Scottish Natural Heritage, 2003), including setts/spoil heaps, pathways, scratching posts, snuffle holes, day nests, faeces, guard hairs, and footprints.

3.2.4 *Bats*

a) Preliminary Roost Assessment

The existing barn was assessed for Bat Roosting Potential (BRP) with reference to the Natural England's (NE) Bat Mitigation Guidelines (Mitchell-Jones, 2004) and the Bat Conservation Trust (BCT) "Bat Surveys: Good Practice Guidelines, 3rd edition" (Collins, 2016). Evidence of roosting bats was recorded if observed.

b) Trees

Existing trees were visually checked to assess their suitability for use by roosting bats using the following criteria:

1. All potential roosting cavities (e.g. natural cavities, rot holes, woodpecker holes, splits, peeling bark) were inspected from the ground using binoculars;
2. All potential niches would be assigned a category according to Bat Conservation Trust (BCT) protocols (Collins, 2016). These categories are listed below:
    - <u>*High Suitability:*</u> Trees 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 due to their size, shelter, protection, conditions and surrounding habitat;
    - <u>*Moderate Suitability:*</u> Trees 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;

- *Low Suitability:* A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential. However, the tree(s) are of a size and age that elevated surveys may result in features being found; or features which may have limited potential to support bats; and
- *Negligible Suitability*: Trees with negligible bat roost potential.

3. Where potential niches existed, niches below 5m high were physically inspected using ladders. Any cavities with the potential to support roosting bats were inspected with a SeeSnake endoscope and/or a small LED torch as necessary;
4. All potential roosting niches were checked for the presence of bats (alive or dead), faecal staining, fur and/or scratch marks around the entrance and droppings within the cavities or attached to the trunk/bough below the entrance.

b) Foraging/commuting habitat

Consideration was given to habitats on site for their potential to provide foraging and/or commuting opportunities for bats, such as hedgerows. The value of these habitats was assessed with reference to the BCT guidance (Collins, 2016) as follows:

- *Negligible:* Negligible features on site;
- *Low:* Habitat that may be used by low numbers of bats (e.g. defunct hedgerow, lone tree) but isolated from the surrounding landscape;
- *Moderate:* Continuous habitat connected to the wider surrounding landscape (e.g. lines of trees and scrub, open water); or
- *High:* Continuous high-quality habitat connected to the wider surrounding landscape likely to be regularly used (e.g. river valley, hedgerow, woodland) with additional value if close to known roosts.

3.2.5 *Nesting birds*

The value of the site was assessed in relation to nesting birds. This was supplemented with field records of birds seen or heard within the site or nests observed.

3.2.6 *S.41 list habitats and species*

The site was surveyed to determine the presence of any S. 41 habitats such as native species hedgerows and ponds. The site's suitability for S. 41 list species such as hedgehog and stag beetle were assessed based on their habitat preferences.

3.2.7 *Non-native invasive plant species*

The site was inspected for Schedule 9 species such as Japanese knotweed and giant hogweed.

3.3 Survey constraints

Given the nature and context of the site, the timing of the survey visit was considered appropriate for this report.

3.4 Surveyors

The initial site walkover, building inspection and pond assessments were undertaken by Christian Whiting BSc (Hons) MSc MCIEEM MEECW who has over 20 years' experience working as an ecologist and holds Natural England (NE) survey licences for barn owl (CL29/00213), bats (2015-14745-CLS-CLS - Bat Survey Level 2, and great crested newts (Class A licence 2015-17633-CLS-CLS).

He is a Registered Consultant (Registration RC089) on NE's Bat Mitigation Class Licence. He is registered on the NE water vole (*Arvicola amphibius*) Developers Class Licence CL31 (Intentional disturbance of water voles and damage/destruction of water vole burrows by means of 'Displacement') and the Environment Agency's and IDB water vole organisational and class licences respectively. His main areas of expertise are bats, vascular plants, amphibians and reptiles, otter (*Lutra lutra*) and water vole.

3.5 Assessment

Impacts and effects upon habitats and species are assessed with reference to the CIEEM Guidelines for Ecological Impact Assessment (2018) and are reported in Section 5, based on the baseline conditions reported in Section 4.

The assessment includes potential impacts upon habitats and species during the construction and operational phases of the scheme. It considers positive and negative impacts, their extent, magnitude and duration, frequency and timing, and reversibility.

4 Results

4.1 Introduction

This chapter summarises the results of the desk and field surveys.

4.2 Baseline ecological conditions - desk study

4.2.1 *Designated sites*

Local sites

Springhill Meadows CWS to the north are two small wet meadows notable for their botanical value, with early marsh-orchid (*Dactylorhiza incarnata*) present.

National sites

No Nationally designated sites are present within 2km.The application site falls within a SSSI Impact Risk Zone for Cattawade Marshes SSSI. However, the proposed scheme does not meet any listed risk criteria.

International sites

The Stour and Orwell Estuaries SPA and Ramsar sites are large Internationally important networks of estuaries and coastal habitats which qualify for important populations of overwintering birds including hen harrier (*Circus cyaneus*), redshank (*Tringa totanus*), black-tailed godwit (*Limosa limosa islandica*), and other species. Overwintering waterfowl can number around 65,000 birds.

Habitat Regulations Assessment

Where a development or project may, alone or in combination, have a 'likely significant effect' upon the features of a Natura 2000 or Ramsar site, the Habitats Regulations 2017 require a Habitats Regulations Assessment (HRA) to be undertaken. HRAs are undertaken by a "competent authority", which in the case of Local Plans and most planning applications is the LPA. Within Suffolk, Ipswich Borough Council in partnership with the neighbouring authorities Babergh and Suffolk Coastal are developing a 'Recreational Avoidance and Mitigation Strategy' (RAMS) to address likely significant effects upon Natura 2000 and Ramsar sites resulting from development within the area.

Given the small scale of the proposal and distance from designated sites, it is considered that the proposed application will have **no significant** impact upon the features for which relevant the sites are designated (due to no significant change in the number of occupants present on a site). None the less, the LPA, based on the advice of Natural England (NE), has discretion to advise otherwise and require a contribution to the Suffolk RAMS.

4.2.2 *Species*

No protected or notable species records exist for the application site boundary, but Table 4.2 identifies species records for within 2km and 250m of site.

Table 4.2 Protected/notable species within 2km and 250m of the application site.

Common name	Scientific name	Legal/conservation status	≤250m of site
Amphibians			
Smooth newt	*Lissotriton vulgaris*	Sch. 5	-
Reptiles			
Slow worm	*Anguis fragilis*	Sch. 5; S 41	-
Grass snake	*Natrix helvetica*	Sch. 5; S 41	-
Birds			
Nightingale	*Luscinia megarhynchos*	Red Status	-
House sparrow	*Passer domesticus*	Red Status; S. 41	-
Tawny owl	*Strix aluco*	Amber status	-
Starling	*Sturnus vulgaris*	Red Status; S. 41	-
Song thrush	*Turdus philomelos*	Red Status	-
Barn owl	*Tyto alba*	Sch. 1	-
Bats			
Barbastelle	*Barbastella barbastellus*	EPS; Sch. 5; S. 41	-
Serotine	*Eptesicus serotinus*	EPS; Sch. 5	-
Natterer's	*Myotis nattereri*	EPS; Sch. 5	**Yes**
Common pipistrelle	*Pipistrellus pipistrellus*	EPS; Sch. 5	-
Soprano pipistrelle	*Pipistrellus pygmaeus*	EPS; Sch. 5; S. 41	-
Brown long-eared	*Plecotus auritus*	EPS; Sch. 5; S. 41	-
Other mammals			
Water vole	*Arvicola amphibius*	Sch. 5; S. 41	-
Hedgehog	*Erinaceus europaeus*	S.41	-
Brown hare	*Lepus europaeus*	S. 41	-
Otter	*Lutra lutra*	EPS; Sch. 5; S. 41	-
Badger	*Meles meles*	PBA 1992	**Yes**
Invertebrates			
White admiral	*Limenitis camilla*	S. 41	-
Stag beetle	*Lucanus cervus*	Sch. 5	-

4.3 Baseline ecological conditions – field survey

4.3.1 Habitats and vascular plants

The site comprises an area of parkland, mixed plantation woodland (c. 40 years old) with some scattered parkland trees (Photos 1 to 5). A timber framed open-fronted barn (Photos 6 and 7) exists in the woodland to the north of the application site. A lake, 2 large ponds and a minor watercourse exist to the south (Photo 8 and 9).

Tree species within the parkland include oak (*Quercus robur*), sweet chestnut (*Castanea sativa*), ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*), Scot's pine (*Pinus sylvestris*) and European larch (*Larix decidua*). Understorey vegetation comprises mostly of ruderal species such as common nettle (*Urtica dioica*) with cleavers (*Galium aparine*), ground ivy (*Glechoma hederacea*) and occasional elder (*Sambucus nigra* agg.).

4.3.2 *Amphibians and reptiles*

a) Amphibians

No ponds exist within the site or close to the application site, but a fishing lake and 2 large ponds (P1 and P2) are located within 250m of the site. P1 (Photo 8) is a lake that supports trout (Mr Hunt *personal communication*) and is considered likely to be unsuitable for GCNs. Pond P1 and P2 are smaller and likely to support fish. A minor watercourse (Photo 9) runs through W1 which is an online lake.

The adjacent woodland to the north provides optimal terrestrial foraging and refuge habitat for amphibians with numerous brash piles present.

b) Reptiles

The parkland grassland is periodically mown and is maintained at a short length and therefore supports negligible refuge habitat. The plantation woodland provides potential refuge habitat for grass snake including potentially for overwintering.

4.3.3 *Badgers*

No evidence of badger activity (e.g. setts, latrines, runs) was found on or seen immediately adjacent to the application site.

4.3.4 *Bats*

An oak tree T1 (Photo 1, Figure 2) contains a small number of potential roosting niches in the upper boughs and was assessed as supporting *moderate roosting suitability*.

Some sweet chestnut and scattered mature oak trees, and the adjacent woodland offers optimal bat foraging habitat, whilst the rides provide optimal commuting habitat. the parkland provides optimal habitat for species such as noctule.

Inspections of the timber framed barn to be demolished (if planning permission granted for the replacement dwelling) found no evidence of roosting bats.

4.3.5 *Nesting birds*

The woodland provides nesting, song perch and roosting habitat for a range of bird species. No evidence of notable nesting or roosting bird species such as barn owl, but it has the potential to support species like swallow (*Hirundo rustica*).

4.3.6 *S. 41 list habitats and species*

a) Habitats

Wood-pasture and parkland habitat is listed as a S. 41 habitat.

b) Species

Hedgehogs are likely to forage within the woodland and over the grassland and may use dead wood piles for refuge habitat. The fallen deadwood may support stag beetle.

4.3.7 *Non-native invasive plants*

None recorded on site.

4.4 Geographic context

The geographic context of a feature is useful in defining the importance of that feature during assessment of impacts. For this report, the geographic frames of reference for the habitats and species present on site are provided in Table 4.2; values are based upon best judgement and the criteria in Table A3.1.

Table 4.2 Feature value based on geographic context and criteria

Feature	Value
Mixed plantation woodland, parkland and ruderal	Local
Amphibians and reptiles	Local
Bats	Local
Nesting birds	Local
Hedgehog	Local

5 Assessment and recommendations

5.1 Description of proposed development

The proposed development comprises the construction of a new dwelling with an access drive, car parking area, terrace and gardens. In addition, biodiversity enhancements (see Table 5.1) are also proposed including the provision of green roofs, native tree and shrub planting, and other biodiversity enhancements including bat and bird boxes, stag beetle loggeries and a grass snake egg-laying heap.

The assessment and recommendations below provide a preliminary assessment of mitigation, compensation and enhancements for the proposed development based on the drawings available at the time of writing; they should be updated accordingly as the scheme is subsequently amended.

5.2 Assessment of Impacts

This assessment made with reference to the 2018 CIEEM guidelines to Ecological Impact Assessment (EcIA) aims to:

- Identify and characterise impacts;
- Avoid, and where necessary incorporate mitigation measures to reduce any impacts;
- Assess the significance of residual effects;
- Identify appropriate compensation measures to offset significant residual effects; and
- Identify opportunities for ecological enhancement where feasible.

The scale of impacts has been assessed with reference to the criteria in Table A2.2.

5.3 Further survey requirements

It is generally advised that subject to no significant change in site management regimes, and dependent on the species present, baseline survey results remain valid for approximately 12 – 18 months (CIEEM, 2019). Exceptions include where mobile species are/may be present, where site management practices cease or change, or where existing guidance indicates otherwise.

No significant habitat manipulation, clearance, or change from current management regimes should occur prior to development, other than as specified below without advice from a suitably experienced ecologist.

5.4 Habitats and vascular plants

a) Potential impacts

Site clearance works and subsequent development with require the felling of a small number of immature broad-leaved trees and the permanent loss of some grassland considered a permanent **minor negative** effect upon habitats of local value.

The impacts upon species associated with the habitats present on the site, and corresponding mitigation including timing and methods, are considered in Sections 5.5 to 5.8.

c) Mitigation

Retained woodland and parkland trees adjacent to the application site should be protected through temporary (e.g. Heras) fencing, whilst Root Protection Areas (RPAs) should calculated for retained trees to prevent root damage; where any planned hard standing or buildings coincide with RPAs hand dig solutions should be employed.

d) Compensation

Tree planting (2 for each 1 to be felled) is required to offset the loss of trees within the footprint of the proposed new home and curtilage. The trees should be broad-leaved species chosen from the following species:

- Sweet chestnut (*Castanea sativa*);
- Beech (*Fagus sylvatica*);
- Small-leaved lime (*Tilia cordata*); and
- English oak.

d) Residual effects

Subject to the mitigation recommendations being followed, the proposed development would have **no significant** residual impact upon habitats present on site.

5.5 Amphibians and reptiles

a) Potential impacts

During the construction phase ground clearance and construction works could result in the injury or death of individual animals, considered a potential **minor adverse** impact upon animals of Local value. Landscaping works have the potential to alter habitat availability upon scheme completion, also considered a **minor negative** impact.

b) Mitigation

The site is not considered likely to support any significant GCN populations given the suitability of the waterbodies on site. However, common species could inhabit boundary habitats and therefore, the following unlicensed method statement is recommended that would include the following good practice construction drainage design and working methods:

1. Surface water drainage from the new dwelling should discharge either directly into a ditch or pond to allow any amphibians that may fall into downpipe hoppers or road drainage (e.g. gulley pots) to escape;
2. If surface water drainage discharges into a soakaway, any downpipes should connect into hoppers with a cover to prevent amphibians falling into the hopper;

3. Areas where pipe runs will be installed should be kept mown to keep vegetation near to ground level to prevent animals seeking refuge for overwintering;

4. Longer vegetation including the removal of ruderal habitat around the pond should be removed using a 2-stage cut as follows:

   - The first cut should be to c. 150mm with the arisings raked off;
   - The area should be left for a minimum of 1 hr (preferably overnight) to allow any animals to move and the second cut should be to just above ground level. The arising should again be raked off to prevent any wildlife seeking refuge.

5. Footings and concrete slabs should be poured during the morning to ensure it has hardened off prior to evening to reduce the risk of animals touching wet concrete;

6. Any hand mixing of mortar or concrete should be on ply boarding over a tarpaulin which is folded over the boarding at the end of each day to prevent animals coming into contact;

7. Any excess concrete should be poured into a concrete skip, so it can then set to prevent animals coming into contact. Concrete mixers and shovels, rakes, boots etc. must be cleaned off in a safe location whereby any washings will not enter the pond onsite or associated ditches;

8. All building materials should be stored on bare ground or hard standing, or stored off the ground on pallets;

9. Any building waste stored on site temporarily should be stored on bare/hard ground or in skips to prevent amphibians or reptiles from seeking refuge; and

10. Should any GCNs be encountered, works should stop immediately, and advice be sought from a suitably experienced ecologist. Any other animals should be allowed to move out of the works area, or safely relocated

c) Compensation

None required.

d) Residual effects

The mitigation and compensation prescribed will ensure there is **negligible** effect upon individual animals during the construction phase of the scheme.

5.6 Bats

a) Potential impacts

No bat roosts will be impacted by the proposed development as the existing oak tree T1 is to be retained, whilst no evidence of roosting bats was recorded in the open-fronted barn.

Lighting impacts, during both construction and operational phases, has the potential to impact natural commuting and foraging behaviour of bats and cause exposure to predators. Together, these impacts are considered a temporary (construction phase) to permanent (operational phase) **minor negative** effect.

Research has shown bats can become entangled in modern breathable roofing membranes such as Tyvek and other woven membranes if used under clay pantiles or peg/plain tiles (Waring *et al.*, 2013). Any future re-roofing works that used a modern woven membrane could cause a **minor negative** impact.

b) Mitigation

i) Light disturbance

During both construction and operational phases of the proposed development, the use of lighting needs to be positioned to avoid illumination of retained habitats including adjacent trees.

Exterior lighting design will be made with refence to published guidance[7] and will consider:

1. *Type of lamp (light source)*: Light levels should be as low as possible as required to fulfil the lighting need. LED lights should be used preferentially, using the warm white spectrum with peak wavelengths >550nm (~3000°K). UV elements and metal halide, fluorescent sources must be avoided; and
2. *Lighting design*: Lighting should be directed to where it is needed, with no horizontal spillage towards retained trees, hedgerows, ponds or watercourses. This can be achieved by restricting the height of the lighting columns and the design of the luminaire as follows:
    - Light columns in general should be as short as possible as light at a low level reduces the ecological impact.
    - Luminaires with an upward light ratio of 0% should be mounted on the horizontal i.e. with no upward tilt.
    - If taller columns (> 8m) are required, and as a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill.
    - The use of asymmetric beam floodlights (as opposed to symmetric) orientated so that the glass is parallel to the ground will ensure that the light is cast in a downward direction and avoids horizontal spillage; and
    - PIR movement sensors and timers should be used to minimise the 'lit time' (up to 1 minute).

ii) Modern breathable membranes

The new roof of the proposed dwelling will be flat and have green roofs sown with a grassland seed mix such that a waterproof membrane will be required to make the roof watertight.

c) Compensatory habitats

None required.

d) Residual impacts

The mitigation prescribed will ensure there is **no significant** impact upon bats during the construction and operational phases of the scheme.

[7] https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting

5.7 Nesting birds

a) Potential impacts

During the tree clearance and demolition works active nests could be disturbed which could in turn result in the injury or death of individual birds, and the destruction of nests and eggs considered a potential **minor adverse** impact upon animals of Local value.

b) Mitigation

During the construction phase, the following measures should be taken to avoid impacts upon breeding birds:

1. Retained trees should be protected with temporary fencing (e.g. Heras) during the works to prevent damage to above ground growth whilst Root Protection Areas (RPAs) should be used to inform the detailed design;
2. The site compound should be located away from trees to reduce noise disturbance; and
3. Tree felling works should commence outside of the main bird breeding period March-August inclusive; where this is not possible, a check for breeding birds by a suitably experienced ecologist should be undertaken prior to tree clearance commencing.

c) Compensation

None required.

d) Residual effects

The mitigation prescribed will ensure there are **negligible** impacts upon breeding birds during the construction and operational phases of the scheme.

5.8 S. 41 list habitats and species

a) Potential impacts

Hedgehog could potentially fall into open excavations and wet concrete (if recently poured) resulting in injury or death. Animals can also take shelter in piles of building materials on site and get injured or killed when the materials are subsequently moved. Such impacts are assessed as a **minor negative** impact upon individuals of Local value.

The loss of some parkland would be considered a **minor negative** impact upon a S. 41 list habitat.

b) Mitigation

Any areas of thick ruderal/bramble scrub or similar vegetation should be cleared in early autumn to avoid impacts upon nesting animals. If clearance is required in the spring to avoid nesting bird issues, vegetation should be retained to no lower than 300mm above ground level to avoid injury or harm to hibernating animals, until temperatures are regularly (6 consecutive days/nights) above 6°C. Clearance at other times of year should be undertaken with prior checks/supervision by an ecologist.

During construction, cement should be laid early in the day or covered with ply boarding or membrane overnight to present animals coming into contact, and materials removed from buildings demolished should be placed into skips that animals cannot access. Trenches should be covered overnight or mammal ladders (medium to large branches, rough pieces of timber) placed to enable animals to escape.

c) Compensation

The loss of grassland which forms part of the parkland S. 41 habitat could be compensated by improving the quality of the retained areas of parkland adjacent to the application site, and by creating grassland within the gardens of the proposed dwelling using an appropriate grass seed mix[8] with wildflowers suitable for the underlying geology[9] and growing conditions.

The dwelling is going to have green roofs, so a suitable grassland and wildflower seed sown to maximise its biodiversity value. As green roofs tend to be drier, then a dry/acid[10], loamy[11] or chalk[12] grassland seed mix is recommended.

d) Residual effects

With the mitigation and compensatory planting prescribed, impacts are considered **negligible**.

5.9 Cumulative effects

A search of the Babergh District Council planning website was undertaken on the 19th March 2020 using a 1km buffer of the application site boundary dating back two years. Three applications were returned.

An application for the demolishment and replacement of a dwelling at London Road (ref: DC/18/03841) has been approved. An ecological survey was undertaken by MHE Consulting Ltd (2018) with bat surveys undertaken in 2019.

An application for the demolition of a barn and erection of a single dwelling at Pound Lane (ref: DC/18/04477) has been granted. A Biodiversity Assessment (Skilled Ecology Consultancy Ltd, 2017) was undertaken as part of the Prior Approval stage (ref: DC/17/02384) which found no notable habitats of ecological importance with no further surveys required.

The third application related to the approved Class Q application for the proposed barn conversion (DC/19/01441) at Wenham Hill.

Given the scale and impacts of the proposed scheme and lack of other large-scale developments within the vicinity **no significant** cumulative impacts are anticipated.

[8] https://www.cotswoldseeds.com/products/1306/species-rich-parkland-grass-low-maintenance-20percent-organic
[9] https://wildseed.co.uk/mixtures/view/24
[10] https://wildseed.co.uk/mixtures/view/30
[11] https://wildseed.co.uk/mixtures/view/27
[12] https://wildseed.co.uk/mixtures/view/29

5.10 Enhancement opportunities

The recommended mitigation measures prescribed will limit adverse impacts resulting from the proposed development. Furthermore, 5 biodiversity enhancements are included as part of the proposed development that would deliver significant biodiversity benefits, in compliance with the NERC Act 2006 and would help the scheme to deliver a Biodiversity Net Gain.

Table 5.1 Enhancement opportunities.

Feature	Enhancement suggestion
Landscaping	1. Significant areas of native shrub and tree planting is proposed to the east of the proposed new dwelling. The shrub (S) and tree (T) planting will comprise native species following the species: Hawthorn (*Crataegus monogyna*) – S Blackthorn (*Prunus spinosa*) – S Yew (*Taxus baccata*) – S Box (*Buxus sempervirens*) – S Holly (*Ilex aquilinum*) – S Guelder rose (*Viburnum opulus*) – S Field maple (*Acer campestre*) – S Hazel (*Corylus 21vellane*) – S Spindle (*Euonymus europaeus*) – S Common dogwood (*Cornus sanguinea*) – S Beech (*Fagus sylvatica*) – T Sweet chestnut (*Castanea sativa*) – T Small-leaved lime (*Tilia cordata*) – T Sessile oak (*Quercus petraea*) – T Pedunculate oak (*Q. robur*) – T Black poplar* (*Populus nigra*) – T *Black poplar must include male and female plants and prefer damp ground, e.g. by the lake
Birds	2. Bird boxes for woodland species such as nuthatch (x2), tree creeper (x2), tawny owl or kestrel (x1) and wren (x4) to be erected on retained trees (Appendix A3) within the parkland and the adjacent plantation woodland.
Bats	3. Bat boxes such as the timber Kent bat box (x3), Vincent Pro (x2) or Schwegler 2FN or similar (x2) and the Miramar woodstone maternity box (x1) (Appendix A4) could be mounted on trees along the eastern, southern and western edges of the plantation woodland. Bat boxes could also be incorporated into the walls of the dwelling.
Invertebrates	4. Stag beetle loggeries (minimum of 2) will be created in the plantation woodland – see Appendix A5.
Amphibians and reptiles	5. A grass snake egg laying site could be created by the lake (Appendix A6).

d) Conclusions

Subject to the recommendations made in Section 5, it is anticipated that the proposed development is consistent with the relevant regulatory and planning policy guidance and wildlife laws.

Potential negative ecological impacts resulting from the proposed development should be mitigated or compensated for as recommended and could be secured through use of planning conditions including the use of a Biodiversity Method Statement (e.g. BS 42020:2013 D.2.1) for wider e.g. amphibian/reptile, tree root protection and hedgehog mitigation measures. Conditions could also be secured specific to breeding birds (e.g. BS 42020:2013 D.3.2.1) and bats (e.g. BS 42020:2013 D.3.5).

If the recommended mitigation and compensation measures are implemented, no significant adverse residual effects are anticipated. Enhancements are proposed to deliver biodiversity benefits during works.

6 References

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition), Bat Conservation Trust, London.

Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R., Aebischer, N.J., Gibbons, D.W., Evans, A. and Gregory, R.D. (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 102, pp296-341.

MHE Consulting Ltd (2019) Proposed Barn Conversion, Land south of Wenham Hill, Great Wenham, Ecological Survey Report, unpublished client report

Mitchell-Jones, A.J. (2004) Bat mitigation guidelines, English Nature report

Scottish Natural Heritage (2003) *Best Practice Guidance – Badger Surveys*. Inverness Badger Survey 2003, Commissioned Report No. 096.

Figures

Legend

Survey area

40 0 40 80 120 m

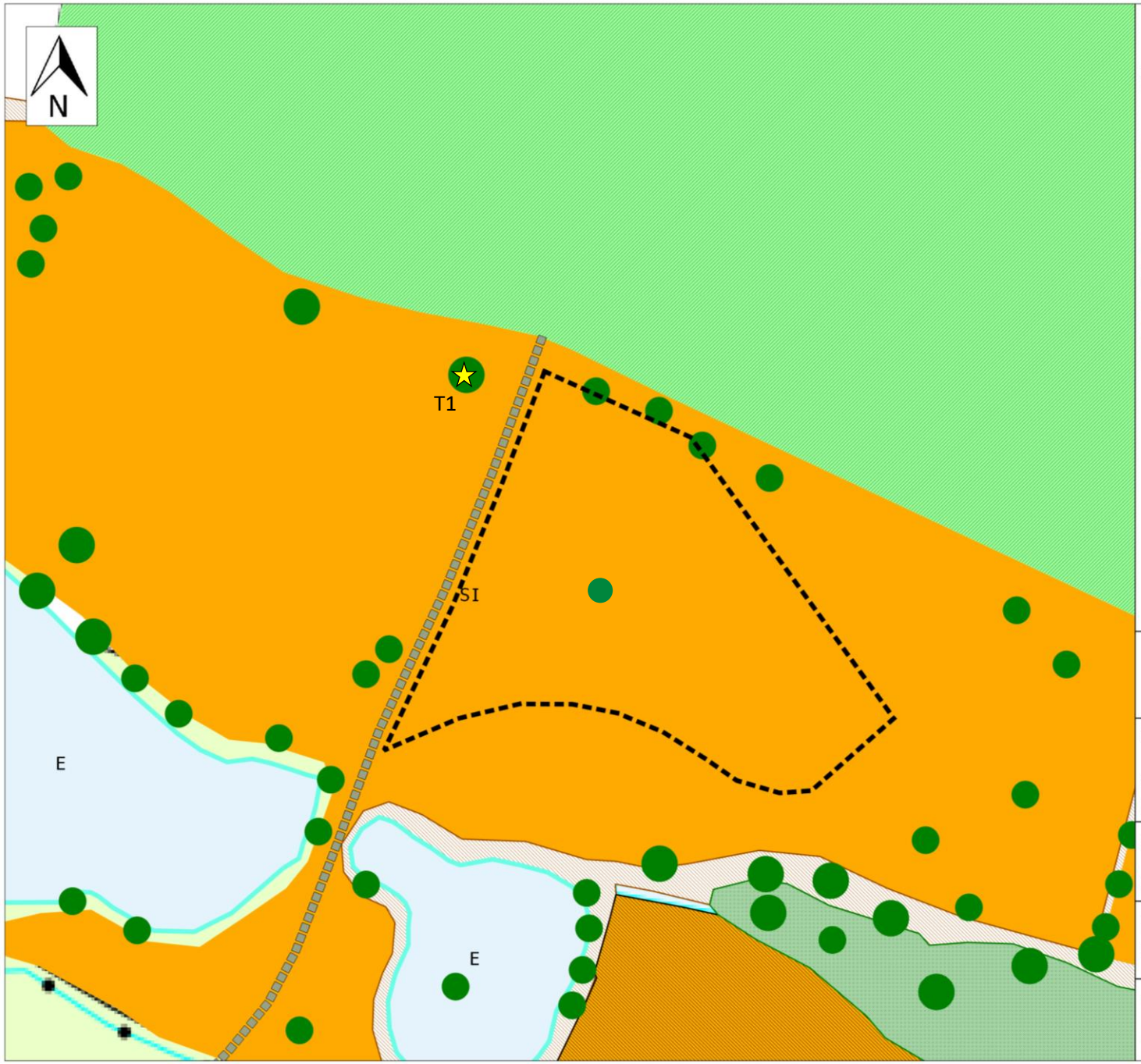
Client: Mr Hunt

Project: Proposed new dwelling, Wenham Hill, Great Wenham

Drawn:	Date:	Drawing Ref:
CW	20/03/20	WENHAMHILL/002

Figure 1 Survey location plan

MHE CONSULTING environmental consultants



Legend

- Dwelling and access
- Broadleaved tree
- Willow scrub
- SI Grassland species poor
- Marshy grassland
- E Waterbody and ponds
- Access track
- Ruderal
- Plantation woodland
- Moderate suitability for roosting bats

0 15 30 45 m

Client: Mr Hunt

Project: Proposed new dwelling, Wenham Hill, Great Wenham

Drawn:	Date:	Drawing Ref:
CW	20/03/20	WENHAMHILL/002

Figure 2 Phase 1 habitats plan and bat roost potential trees

MHE CONSULTING environmental consultants

Appendices

Appendix A1 Photos

Photo 1 View of location for the proposed new dwelling

Photo 2 Oak T1

Photo 3 Existing access track to the plantation woodland

Photo 4 Access track with development site to right

Photo 5 Plantation wooodland with scattered trees

Photo 6	**Photo 7**
	
Photo 8 Fishing lake stocked with trout	**Photo 9** Watercourse that feeds the lake

Appendix A2 EcIA assessment criteria

A2.1 General criteria for categorising value of ecological features

Designation	Example
International	• SPA, SAC and Ramsar sites and the features that they have been designated for. • A sustainable area of habitat listed in Annex I of the Habitats Directive or smaller areas of such habitat which are essential to maintain the viability of a larger whole. • A sustainable population of an internationally important species e.g. UK Red Data Book (RDB) species or European Protected Species (EPS) of unfavourable conservation status in Europe (e.g. Annex II species: bats, GCNs etc.), of uncertain conservation status or of global conservation concern in the UK BAP.
National	• SSSI or a discrete area that meets the selection criteria for designation. • A sustainable area of priority habitat identified included on the S. 41 NERC Act list or smaller areas of such habitat that are essential to maintain the viability of a larger whole. • A sustainable population of priority species (listed under S. 41 of the NERC Act 2006). • A sustainable population of a nationally important species i.e. RDB species not included in above category but which is listed on Schedules 5 or 8 of the WCA 1981 (as amended). Also, sites supporting a breeding population of such species or supplying a critical element of their habitat requirements. • A sustainable population of uncommon or threatened Annex IV EPS species at a UK level. • A nationally scarce species (occurs in 30-100 10km squares in the UK) that has its main UK population within the district.
County	• A viable area of habitat identified in the county BAP. • A County Wildlife Site. • A sustainable population of common or non-threatened Annex IV EPS species at a UK level. • A Nationally Scarce species that does not have its main population within the county. • Any BAP species not included in the 'national' category above for which a county Action Plan exists.
Local	• Individual members of local populations of priority or other nationally/internationally important species which are not in themselves key for maintaining a sustainable population (e.g. individual dog otter passing through area with no holts or resting sites). • Other habitats and species not in the above categories but are considered to have some value at the district/borough level.

Table A2.2 Criteria for assessing the scale of ecological impacts

Scale of Impact	Description of effect on its own or in combination with other proposals
Major negative	• An adverse effect on the integrity of the habitat/site in terms of the coherence of its ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and /or population levels of species of interest; and/or • Adverse impacts leading to permanent loss of population/sub-population/assemblage or its ability to remain viable.
Negative	• An adverse effect on the habitat/site significant in terms of its ecological objectives, but not adversely affecting its integrity; and/or • Adverse impacts leading to measurable long-term damage to or loss of populations/sub-populations/assemblages though not likely to compromise long-term viability.
Minor negative	• Some adverse effect on the habitat/site but no adverse effect on the integrity nor obvious adverse effect in terms of its ecological objectives; and/or • Adverse impacts affecting a few individuals when this would not be likely to be measurable or significant in terms of population dynamics.
Negligible	• No significant impact in either direction.
Minor Positive	• Some positive effect on the habitat/site likely to enhance the wildlife and habitat of the site, although unlikely to affect its ecological objectives; and/or • Positive impacts affecting a few individuals, although this would be unlikely to be measurable or significant in terms of population dynamics.
Positive	• A positive effect on the habitat/site in terms of its ecological objectives, although unlikely to have a positive effect on its integrity; and/or • Positive impacts leading to measurable long-term enhancement to or improvement of populations/ sub-populations/ assemblages though unlikely to improve long-term viability.
Major positive	• A positive effect on the integrity of the habitat/site in terms of the coherence of its ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and/ or population levels of species of interest; and/or • Positive impacts leading to permanent improvement of a population/ sub-population/ assemblage or its ability to remain viable.

Appendix A3 Bird boxes

T: +44 (0) 1675 442299 mail@nestbox.co.uk

log in / register blog one page order

nestbox COMPANY

(0)

BIRDS BATS OWLS MAMMALS BOX KITS ECO BOXES INSECTS MOTH TRAPS BESPOKE

Home › Treecreeper Nest Box

Treecreeper Nest Box

- This bird box has been designed especially for treecreepers.
- Mount on trees to encourage treecreepers to nest where natural nest sites are rare.
- Hinged roof for easy access and cleaning.
- We manufacture these bird nesting boxes from precision cut FSC certified wooden panels treated with water based environmentally friendly preservative.

£12.00 excl. VAT £14.40 inc. VAT

Qty. 1

---

rspb giving nature a home

Welcome to the RSPB online shop
Save nature while you shop

Favourites | Compare Products Sign In | Account

My basket:
(0) ITEM £0.00

CHECKOUT

Bird food | Birds & wildlife | Binoculars & scopes | Gifts & home | Sale & offers | New

Standard UK delivery £3.95
or free for orders over £75

SEARCH BY PRODUCT OR CODE SEARCH

Got a catalogue? Use Quick order

Home > RSPB Robin and wren diamond nestbox

Order online or call us on 0345 034 7733

RSPB Robin and wren diamond nestbox

£12.99

Qty 1 In stock ADD TO BASKET

Product information | Advice | Specifications | Delivery Returns

Best-selling, diamond shaped, open-fronted nest box attractive to robins, wrens, pied wagtails and spotted flycatcher.

Beautifully made from FSC timber; roof treated with safe, non-toxic, water-based preservative. UK made.

UK MADE

FSC

Installing your nestbox

For secure and stable fixing, there are two hanging tabs attached to the

https://gardenature.co.uk/shop/wildlife-habitats/garden-bird-boxes/nuthatch-nest-boxes

rid Reference... | National Biodiversit... | Jacobs Engineering... | Bing Maps | ~ Santander Online... | Microsoft Office Ho... | Welcome to Accele... | People Portal | HomeServer | Jacobs Engineer

LOGUE
tching Wildlife
dlife Habitats
eding Wildlife
rden & Outdoor
ers
t Ideas

Nuthatch Nest Boxes

The Nuthatch requires a small nest box with a 32mm entrance hole. the Nuthatch box should be positioned approximately 3 meters or more above ground with a clear flight path to the bird box. The nuthatch will plaster mud around the entrance, side and roof of the nest cavity, the floor is lined with wood chippings and leaves and then egg laying starts between early April and mid June, nuthatches occasionally have two broods. They can lay upto 8 eggs which are white with reddish specks, incubation takes 2 - 3 weeks and then the nuthatch chicks will fledge about 3 - 4 weeks later.

BY RECOMMENDATION

Nuthatch Box 5KL

Nuthatches will readily adopt this box if it is hung reasonably high and close to the trunk of a mature beech or oak.

Multi Species Bird Box

Handmade from Western Red Cedar. Removable centre panel for open fronted nesters, attract the widest range of garden birds.

Flat Roof Bird Box

Suitable for use with a colour nest box camera. Features a roof window, camera bracket, cable tray and cable clip. Optional open front.

NHBS Ltd [GB] | https://www.nhbs.com/eco-tawny-owl-nest-box?bkfno=246427&ca_id=1495&gclid=CjwKCAjw96fkBRA2EiwAKZjFTaBJRbgwE

Apps | UK Grid Reference... | National Biodiversit... | Jacobs Engineering... | Bing Maps | ~ Santander Online... | Microsoft Office Ho... | Welcome to Ac

About | Help | Blog | Jobs | Established 1985 | NHBS Brexit Preparations

nhbs
wildlife | ecology | conservation

All Shops | Search...

Backlist Bargains | Equipment shop | Bookstore | Magazir

Eco Tawny Owl Nest Box

4.8 ★★★★★
Google
Customer Reviews

Select product

Usually dispatched within 2-3 weeks
£69.50 inc VAT
#246427

Selected product: £69.50 | ADD TO BASKET

About this product | Specification | Customer reviews | Related products

Additional images

gardenature.co.uk/product/kestrel-nest-box?gclid=Cj0KCQjw_5rtBRDxARIsAJfxvYARKzTlBrm2qxnilyiBt2p-thKFk8KA1q9RE4OXAs4J_bLq39XotmgaAgABEALw_wcB

UK Grid Reference... | National Biodiversit... | Jacobs Engineering... | Bing Maps | ~ Santander Online... | Microsoft Office Ho... | HomeServer | Jacobs Engineering... | Worldwide sunrise,... | Home

gardenature®
Get closer to wildlife

Search our world | CART £0.00

Contact My Account
01255 514452

Watching Wildlife | Wildlife Habitats | Feeding Wildlife | Garden & Outdoor | Gift Ideas | Delivery Information | About Us | Advice | Blog

Home / Shop / Wildlife Habitats / Owl and Bird of Prey / Kestrel Nest Box

Kestrel Nest Box

High quality Kestrel Box with removable perch, sturdy back plate for optional mounting. Handmade in the UK to RSPB specifications
SKU: KNB

£89.95

Quantity
- 1 +

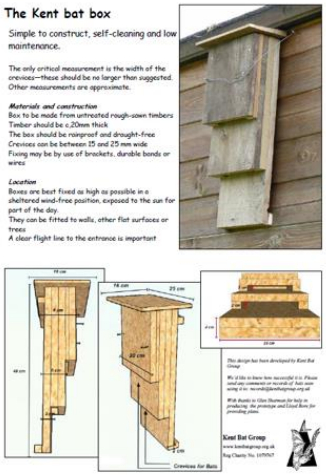
BUY

Warranty and Technical Support on all our products

Appendix A4 Bat boxes

Ibstock integrated box

Vincent Pro bat box



The Kent bat box

Simple to construct, self-cleaning and low maintenance.

The only critical measurement is the width of the crevices—these should be no larger than suggested. Other measurements are approximate.

Materials and construction
Box to be made from untreated rough-sawn timbers
Timber should be c.20mm thick
The box should be rainproof and draught-free
Crevices can be between 15 and 25 mm wide
Fixing may be by use of brackets, durable bands or wires

Location
Boxes are best fixed as high as possible in a sheltered wind-free position, exposed to the sun for part of the day.
They can be fitted to walls, other flat surfaces or trees
A clear flight line to the entrance is important

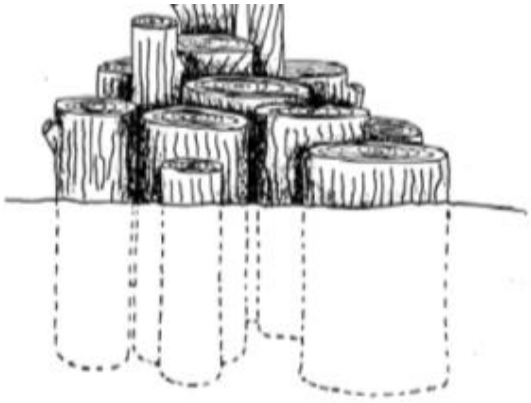
Kent Bat Group

Kent bat box

Schwegler 2FN bat box

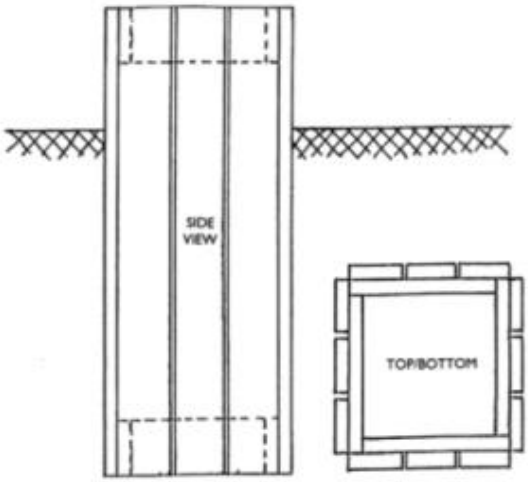
Mirastone maternity box

Appendix A5 Invertebrate loggery designs



Traditional simple loggery

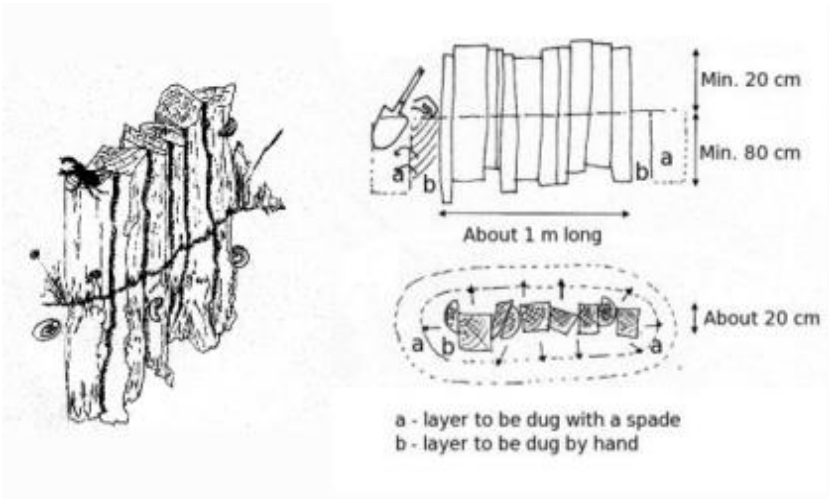
Large logs (10-50cm diameter) of hardwood (e.g. oak, beech, sycamore, ash) with bark still attached should be sunk circa 60cm into the ground, in partially shaded areas.



Artificial breeding box

Developed by Colin Hawes of the Suffolk Naturalists' Society.

Made of hardwood timber, 2cm thick, a box 49 (H) x 21.5 (W) x 21.5cm (D) open at each end top and bottom, covered on the four sides with 61cm (H) x 7cm (W) x 2cm (D) slats, leaving <1cm gaps between (to allow access to beetles and larvae) to make total length of 61cm.



Dutch nesting posts

They are built with aligned vertical posts of decayed oak wood. The posts are about 1 meter long, 20 cm thick, and buried to a depth of 80 cm, close to each other.

For monitoring them all that is needed is to dig a ring around the posts (Area **a)** about 60 cm deep, and then carefully scrape the soil away (by hand) from around the wood (Area **b).** ***This must not be done from***

Appendix A6 Grass snake egg-laying heap

Creating grass snake egg-laying heaps

RAVON ARG UK

Introduction

Identification

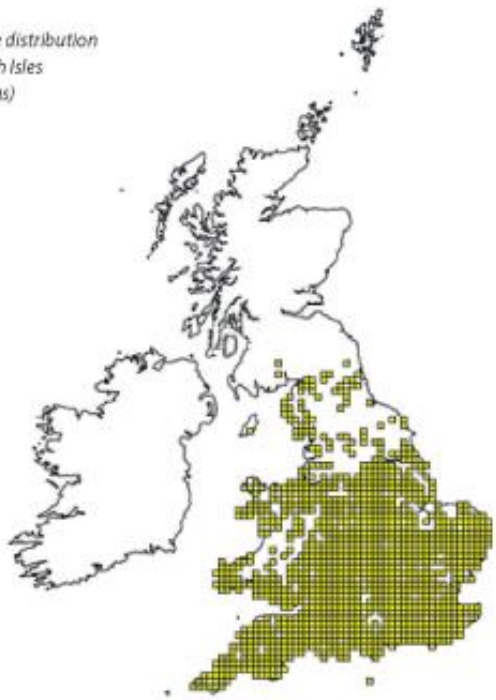
The grass snake *Natrix helvetica* is the largest British native snake, and can grow to over 1 metre in length. Grass snakes range from grey to green or brown in colour. They have a distinctive yellow or cream collar, bordered to the rear by contrasting dark markings. There is a series of dark bars running along the flanks and some individuals have dark spots on the back as well. Often found near water, grass snakes can sometimes be spotted swimming, or hunting for favoured prey species, which are mainly amphibians. Grass snakes are non-venomous, but they can exude an unpleasant smelling musk if caught. They can live for up to 15 years in the wild.

Life cycle

In common with other native reptiles, grass snakes hibernate over winter from October to March, emerging as the weather warms in early spring to replenish their energy reserves by feeding and basking. During April and May they find a mate, and in June or July females lay 10 to 40 leathery white eggs, often in warm compost, piles of leaves or manure heaps, which helps the eggs to incubate and hatch. Several females may use the same egg laying spot, so it may be possible to find large numbers of eggs in a suitable heap. After 6 to 10 weeks the pencil sized (14-22 cm long) young grass snakes emerge. Hatchlings cut their way out of the egg with an egg tooth, which they lose once they have emerged. It then takes three to four years for the young grass snakes to reach adulthood and sexual maturity.

Hatched grass snake eggs

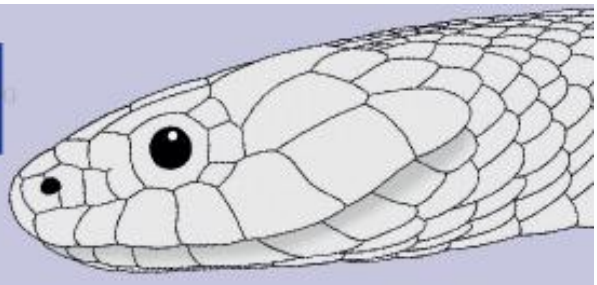
Grass snake distribution in the British Isles (© NBN Atlas)



Distribution and habitat

Grass snakes are widely distributed across much of England and Wales, though they are less commonly recorded in the North East of England, and Scotland. Generally, grass snakes prefer to live near water, where they can readily find their amphibian prey; but two other essential habitat features are egg-laying sites and places to hibernate. Natural grass snake egg-laying sites include heaps of organic material, or rotted tree stumps. Many grass snakes, however, take advantage of human activities and lay their eggs in manure or compost heaps. As a result, grass snakes are sometimes seen near riding stables and allotments during the spring and summer months. Over-wintering or hibernation occurs in dry, frost free and relatively undisturbed locations. Hibernation sites may be located in burrows or holes, heaps of rubble or wood, or dilapidated stone walls or buildings. In some areas, a vegetated earth bank or hedge bank, sea wall or even a road or rail embankment may be used.

Why create egg-laying heaps?



How you can help grass snakes

Grass snakes and humans have been intricately linked through livestock husbandry for many thousands of years across large parts of Europe. Historically, grass snakes have made use of manure heaps, and latterly compost heaps, as egg-laying sites, since these structures generate the heat that the snakes need to incubate and successfully hatch their eggs. In previous times this close association led to the grass snake being regarded as a house god in some parts of Europe, the symbol of spring, wisdom and protecting livestock.

However, in common with much of our native wildlife, we are seeing declines in grass snakes as agricultural and livestock husbandry practices change. One factor is thought to be availability of egg-laying sites, since there are fewer suitable heaps of manure accessible to grass snakes in the wider countryside. One means of boosting grass snake numbers may therefore be to create egg-laying heaps. These heaps also provide shelter and overwintering sites for slow-worms, amphibians, invertebrates and small mammals such as hedgehogs, mice and voles.

How to create a grass snake egg-laying heap

- **Where:** In a sunny spot, adjacent to tall vegetation, away from busy roads and no more than 400m from a water body. Female grass snakes become habituated to using a successful heap for several years, so when refreshing a heap, ensure you always use the same location.
- **When:** Mid-March to late April
- **Materials:**
  - One third fresh horse manure
  - One third vegetation (leaves, clippings) or compost
  - One third large sticks or branches
- **Instructions:**
  - Clear the ground where you want the heap
  - Create a base layer of leaves and clippings
  - Lay the largest sticks/branches on top of this
  - Place half of the horse manure on top of the sticks and branches.
  - Add another layer of smaller sticks.
  - Mix the remaining manure with the vegetation/compost and add this to the heap. Add some branches and smaller sticks to keep these layers well ventilated.
  - Ensure that the egg-laying heap is not too compacted, so the animals can easily get into it, and to prevent it from overheating.

For more information about grass snakes

Amphibian and Reptile Groups of the UK (ARG UK) - www.arguk.org
Amphibian and Reptile Conservation - www.arc-trust.org
Froglife - www.froglife.org

If you find a dead or diseased grass snake please report the incident to the Garden Wildlife Health Project (GWH) - **www.gardenwildlifehealth.org.**
GWH investigates disease threats to British wildlife.

If you spot a grass snake at any stage of its life cycle (eggs, juvenile, adult), or even a shed skin, please share the information either through Record Pool - **www.recordpool.org.uk,** or your preferred biological recording scheme.

ARG UK

The Amphibian and Reptile Groups of the UK (ARG UK) is a network of volunteers committed to the conservation of native amphibians and reptiles. ARG UK is a registered charity (no. 1165504).

Acknowledgements

Text: Angela Julian, John Baker, Ian Kramer, Tariq Stark & Ingo Janssen
Photo credits: John Baker, Nicola Devine, Jelger Herder, Tariq Stark, Theodoor Heijerman & Warren Photographic

This leaflet is based on an advisory publication by RAVON and has been reproduced with the generous support of RAVON staff

ARG UK
RAVON
amphibian and reptile conservation
froglife
Esmée Fairbairn FOUNDATION
GWH Garden Wildlife Health