
Ecology Report

**PLANNING APPLICATION FOR THE ERECTION OF A
DETACHED HOLIDAY LET (FOLLOWING REMOVAL OF
EXISTING BUILDING), ERECTION OF A NEW CART
LODGE AND THE SITING OF 4 HOLIDAY PODS**

Perkins Farm, Mendlesham Green, Suffolk

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Executive Summary

MHE Consulting Ltd were instructed to undertake ecological surveys and assessment of a barn and land at Perkin's Farm, Mendlesham Green, Suffolk, to inform submission of a planning application to Mid Suffolk District Council for the erection of a detached holiday let (following removal of existing building), erection of new cart lodge and the siting of 4no. holiday pods.

The application site comprises an existing barn and adjacent gardens, with habitats present including rough grassland, a small orchard, scattered trees, hedgerows, ruderal vegetation, woodland, scrub, a dry ditch and two ponds.

The hedgerows, mature fruit trees and potentially the woodland are considered to meet the criteria for S. 41 list "*Habitats and species of principal importance for the conservation of biodiversity in England*" as defined by the Natural Environment and Rural Communities (NERC) Act 2006.

Two ponds are located within the application site boundary comprising a small, shaded pond P1 assessed as supporting poor habitat suitability for great crested newt (GCN, *Triturus cristatus*), and a larger pond P2 which supports good habitat suitability. Terrestrial habitat around the ponds and within the wider site is suitable for GCNs and presence-likely absence surveys are recommended.

The hedgerows, scrub, lawn and log piles offer areas of potential refuge, dispersal and foraging habitat for amphibians, reptiles and small mammals including hedgehog (*Erinaceus europaeus*).

Insectivorous birds may forage over the areas of lawn, whilst hedgerows, trees, woodland and shrubs offer nesting habitat for bird species such as sparrows and thrushes, with trees providing song perches. A pair of turtle dove (*Streptopelia turtur*) (Red Status; S. 41) were recorded feeding from a bird feeder in the gardens at Perkins Farm in 2020.

An inspection of the barn found evidence of likely roosting by small numbers of common bat species including pipistrelle (*Pipistrellus* sp.) and brown long-eared (*Plecotus auritus*). No trees within the application site that require felling support any potential bat roosting niches. The boundary hedgerows, scattered trees, area of woodland along an existing bridleway and two ponds provide optimal bat foraging habitat. Bat surveys are recommended to inform mitigation measures to minimise impacts and confirm necessary compensatory habitat provision.

Mitigation and compensation measures are proposed to reduce impacts and off-set biodiversity losses, with biodiversity enhancements suggested to maximise gains. Standard planning conditions are recommended to secure mitigation, compensation, and enhancement measures.

1 Introduction

1.1 BRIEF

MHE Consulting Ltd were instructed to undertake and report a survey and assessment of a barn and land at Perkin's Farm, Mendlesham Green, Suffolk (TM 4514 6610; Figure 1), to inform submission of a planning application to Mid Suffolk District Council for:

- The construction of a detached holiday let with gardens and car parking;
- A detached garage (cart lodge) for the existing dwelling; and
- 4 glamping pods in an area of woodland to the east of the dwelling with associated visitor parking.

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;
- Make recommendations for mitigation (if required); and
- Identify opportunities for biodiversity enhancements and, consistent with national and local planning policy, net gains.

This report will form the basis for the submission of biodiversity information with the 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 application site (Figure 1) is located off Tan Office Lane, Mendlesham Green; the development is proposed within two areas of the site, to the north and south-east of the existing thatched cottage.

The proposed holiday let will be located to the north of the thatched cottage. The area comprises an existing barn to be demolished (Photos 1 and 2), and an area of lawn, scattered trees, driveway and car parking area (Photos 3 and 4) to the west. A polytunnel (Photo 5) with areas of rough grassland (Photos 6 to 8), mown pathways and some mature fruit trees (Photos 6 and 7) exist to the east. Some ruderal vegetation is present adjacent to the east elevation of the barn.

Habitat within the location of the proposed cart lodge, car parking and holiday pods site (to the south-east of the thatched cottage) comprises a small area of broad-leaved woodland with mostly ruderal understorey vegetation (Photos 12 to 14). A bridleway (Photo 15) will provide access to the proposed holiday pod accommodation.

The existing thatched cottage and areas of lawn, shrubs, scattered trees including the fruit trees, hedgerows and two ponds (Figure 2) will be unaffected by works (Figure 3).

Photos of habitats present 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 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/attachm ent_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 the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

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. Existing planning policies and supporting documents used to plan, deliver and monitor development across the Mid Suffolk area can be found at <https://www.midsuffolk.gov.uk/planning/planning-policy/adopted-documents/>. Babergh and Mid Suffolk are currently working towards the production of a new Joint Local Plan.

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. *Habitats and species of principal importance for the conservation of biodiversity in England* 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 afforded legal protection 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 mantegazzianum*) 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 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 (as amended) transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) into UK law. They have been recently 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 (National Site Network) 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 Regulations.

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, possess, 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 Methodology

3.1 INTRODUCTION

This document reports protected species surveys and provides an Ecological Impact Assessment. It has been produced with reference to relevant guidance, most notably:

- Guidelines for Ecological Report Writing (CIEEM, 2017);
- Biodiversity – Code of Practice for Planning and Development (BS 42020:2013¹);
- Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018); and
- Biodiversity Net Gain (BNG): good practise principles for development (CIRIA, CIEEM and IEMA, 2016).

The following sections summarise the approaches used to review existing data, and to undertake appropriate field surveys to scope and inform an Ecological Impact Assessment (EclA) for the scheme. Where further surveys are considered necessary, this is identified in section 5.

3.2 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, 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;
- Natural England (NE) open source protected species and habitat survey data; and
- Historical biological records: species and locally designated site records within 2km of the site were provided by the Suffolk Biodiversity Information Service (SBIS; Appendix A2).

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

- Amphibians² and reptiles³ including great crested newts (GCNs) (*Triturus cristatus*), toads (*Bufo bufo*), and grass snake (*Natrix helvetica*),
- Mammals including badgers (*Meles meles*)⁴ and bats⁴;
- Breeding birds⁵ including Red and Amber status⁶ species; and
- S. 41⁷ list habitats such as hedgerows, and species such as hedgehog (*Erinaceus europaeus*) and Lepidoptera (butterflies and moths).

In the context of the landscape setting, scale of the application site, and unknown nature of the development, the 'Zone of Influence' of the scheme is considered restricted to habitats on the site and species within 250m of the site boundary unless identified otherwise.

¹ BSI Standards publication BS 42020:2013 Biodiversity – Code of practice for planning and development.

² GCNs and all species of bats receive full protection under the WCA 1981 and Habitats Regulations 2017.

³ Widespread amphibians and reptiles receive partial protection under the WCA 1981.

⁴ Badgers and their setts are afforded protection by the PBA 1992.

⁵ All wild birds, their nests and eggs are protected under the WCA 1981 (as amended), level of protection varies per species.

⁶ The conservation statuses of UK bird species are listed within the Birds of Conservation Concern 4 (Eaton *et al.*, 2015).

⁷ S. 41 of the NERC Act 2006 lists 'habitats and species which are of principal importance for the conservation of biodiversity in England'.

3.3 FIELD SURVEY

A site walkover was undertaken on the 6 November 2020 to 1) record habitats present, and 2) assess the value of the 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 any Schedule 9 (WCA 1981) plants.

3.3.1 *Habitats and vascular plants*

The site was walked with all distinct vegetation and habitat types and any features of interest identified using the Phase 1 Habitat Survey methodology (JNCC, 2010). Care was taken to record as many species as possible.

3.3.2 *Amphibians and reptiles*

a) Amphibians

Two ponds P1 and P2 (Figure 2; Photos 16 and 17) exist within the application site and were assessed for their suitability to support GCNs using the Habitat Suitability Index (HSI) method as developed by Oldham *et al.* (2000). A number of other ponds within 250m of the site (but outside of the applicant's landholding) in the vicinity of Tan Office Farm House were not assessed at the time of the survey.

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*).

b) Reptiles

Habitats on and around the application site were assessed with respect to the known foraging and refuge preferences of widespread reptile species.

3.3.3 *Bats*

a) Preliminary Roost Assessment (PRA)

The existing barn was assessed with regards to its suitability for supporting roosting bats with reference to the NE Bat Mitigation Guidelines (Mitchell-Jones, 2004) and the Bat Conservation Trust (BCT) "Bat Surveys: Good Practice Guidelines, 3rd edition" (Collins, 2016).

b) Tree Roost Assessment

Existing trees were visually checked to assess their Bat Roosting Potential (BRP) 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 where necessary;
2. All potential niches would be assigned a category according to Bat Conservation Trust (BCT) protocols (Collins, 2016). These categories are listed below:
 - High Suitability: 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;
 - Moderate Suitability: 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 where appropriate. Any cavities with the potential to support roosting bats were inspected with a SeeSnake endoscope and/or a small LED torch as necessary; and
 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.

c) Foraging and commuting habitat

Consideration was given to the value of any potential foraging and commuting habitats (e.g. hedgerows and grassland) on the application site (Collins, 2016).

3.3.4 *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.

3.3.5 *Badger*

The application site and adjacent habitats were surveyed for evidence of badger activity including setts, day beds, latrines, diggings/snuffle holes, paths/runs, scratching posts, hair, and footprints. Any potential sett found was then assessed for evidence of recent use by badger and classified as per current guidance (Scottish Badgers, 2018).

3.3.6 *S.41 habitats and species*

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

3.3.7 *Non-native invasive plant species*

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

3.4 SURVEY CONSTRAINTS

Given the nature of the habitats present on site and the footprint of proposed works, the timing of the survey visit was considered appropriate for the walkover survey.

3.5 SURVEYORS

The building inspection, pond HSI assessments and site walkover were undertaken by Christian Whiting and Alex Gregory. Christian Whiting BSc (Hons) MSc MCIEEM MEECW has over 20 years' experience working as an ecologist and holds NE survey licences for bats (2015-14745-CLS-CLS – Bat Survey Level 2, and GCNs (Level 1 licence 2015-17633-CLS-CLS). He is a Registered Consultant (Registration RC089) on NE's Bat Low Impact 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.

Alex is an assistant ecologist and undergraduate student studying Environmental management at Harper Adams University, and currently undertaking an industrial placement with MHE Consulting Ltd.

3.6

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*

Any locally designated sites (e.g. Local Nature Reserves) within 2km and nationally designated sites within 5km application site are listed in Table 4.1. No internationally designated sites are located within 13km of the application site.

Table 4.1 Relevant designated sites

Site name	Site designation(s)
Tassel Stonewort Site, Mickfield	CWS
Gipping Great Wood	SSSI
Lingwood Meadows, Earl Stonham	SSSI
Mickfield Meadow	SSSI

Locally designated sites

No Local Nature Reserves (LNR) are located within 2km of the application site. However, Tassel Stonewort Site, Mickfield CWS is located within 2km and comprises a small ditch between arable fields at Mickfield. The ditch supports the rare plant species tassel stonewort (*Tolypella intricata*), which is internationally threatened and declining throughout most of its range. It is the only site where this species occurs in Suffolk. The proposed development is not expected to disturb the site.

Nationally designated sites

Gipping Great Wood SSSI is an ancient coppice-with-standards woodland situated close to the headwaters of the River Gipping. The woodland supports a complex mosaic of stand types, most notably hornbeam (*Carpinus betulus*) coppice, though areas of acid pedunculate oak-hazel-ash woodland, and pedunculate oak-hornbeam woodland with patches of wet ash-maple woodland and invasive elm are also present. The site is considered to hold the greatest concentration of thin-spiked wood sedge (*Carex strigose*) in Eastern England, whilst a small pond and associated stream provide additional ecological interest.

Lingwood Meadows SSSI comprises two floristically rich, old meadows and is one of the few remaining examples of unimproved grassland in Suffolk. In addition to grasses, the site supports over 50 species of plant including the nationally scarce sulphur clover (*Trifolium ochroleucon*). A tall hedge surrounding the meadows contains many tree and shrub species which adds further diversity and helps prevent spray drift from adjacent fields, whilst two ditches help drain water from the site.

Mickfield Meadow SSSI is a small, traditionally managed, species-rich meadow supporting neutral grasses and herb species. The meadow is noted for its population of Fritillaries which are frequent in the northern part of the meadow.

The site lies within a SSSI Impact Risk Zone but does meet any of the criteria considered to pose a significant risk to ecological features of the designated sites.

4.2.2 Priority habitats

The MAGiC website indicates an area of deciduous woodland (broadleaved) extends along the entirety of the southern part of the application site, with an area of broad-leaved woodland and traditional orchard located c. 200m north-west of the site.

4.2.3 SBIS Species Records

No protected or notable species records exist for within the property site boundary. Table 4.2 identifies, where data resolution allows, species records within 250m (**in bold**) or 2km of the application site boundary

Table 4.2 Protected/notable species within 2km of the site.

Scientific name	Common name	Legal/conservation status
<i>Bufo bufo</i>	Common toad	Sch. 5; S. 41
<i>Lissotriton vulgaris</i>	Smooth newt	Sch. 5
<i>Rana temporaria</i>	Common frog	Sch. 5
<i>Triturus cristatus</i>	Great crested newt	EPS; Sch. 5; S. 41
<i>Natrix helvetica</i>	Grass snake	Sch. 5; S. 41
<i>Arvicola amphibius</i>	European water vole	S. 41; Sch. 5
<i>Erinaceus europaeus</i>	Hedgehog	S.41
<i>Lepus europaeus</i>	Brown hare	S. 41
<i>Lutra lutra</i>	European otter	EPS; S.41; Sch. 5
<i>Meles meles</i>	Eurasian badger	PBA 1992
<i>Alauda arvensis</i>	Skylark	Red Status; S. 41
<i>Apus apus</i>	Swift	Amber Status
<i>Delichon urbicum</i>	House martin	Amber Status
<i>Emberiza citrinella</i>	Yellowhammer	Red Status; S.41
<i>Falco tinnunculus</i>	Kestrel	Amber Status
<i>Linaria cannabina</i>	Linnet	Red Status
<i>Muscicapa striata</i>	Spotted flycatcher	Red Status; S. 41
<i>Passer domesticus</i>	House sparrow	Red Status; S. 41
<i>Passer montanus</i>	Tree sparrow	Red Status; S. 41
<i>Prunella modularis</i>	Dunnock	Amber Status
<i>Pyrrhula pyrrhula</i>	Bullfinch	Amber Status
<i>Streptopelia turtur</i>	Turtle dove	Red Status; S. 41
<i>Strix aluco</i>	Tawny owl	Amber Status
<i>Sturnus vulgaris</i>	Starling	Red Status; S. 41
<i>Turdus philomelos</i>	Song thrush	Red Status; S. 41
<i>Turdus viscivorus</i>	Mistle thrush	Red Status
<i>Tyto alba</i>	Barn owl	Sch. 1
<i>Satyrrium w-album</i>	White letter hairstreak	RLGB.EN; Sch. 5; S. 41
<i>Cruciata laevipes</i>	Crosswort	RLENG.Lr(NT)
<i>Filago vulgaris</i>	Common cudweed	RLENG/GB.Lr(NT)
<i>Plantago media</i>	Hoary plantain	RLENG.Lr(NT)
<i>Viola tricolor</i>	Wild pansy	RLENG/GB.Lr(NT)

4.2.4

Natural England open source GCN records

Positive GCN eDNA records (dated 2019) exist for c. 1.3km to the north-west of the application site.

4.3

BASELINE ECOLOGICAL CONDITIONS – FIELD SURVEY

4.3.1

Habitats and vascular plants

Descriptions of the habitats (Figure 3) and the characteristic plants species present are provided below, with photos provided in Appendix A1.

a) Built environment

A barn is situated in the north-west corner of the application site. The barn (Photos 1 and 2) has concrete block walls, a concrete pantile roof, and timber cladding on the south and west elevations. Immediately west of the barn is a car parking area (Photo 3), and a gravel driveway onto Tan Office Lane (Photo 4). A polytunnel is located c.10m south-east of the barn (Photo 5).

b) Rough grassland

Unmown grassland with mown strips/pathways covers much of the land to the east of the barn (Photos 5 to 8). The sward comprises common grasses such as cock's-foot (*Dactylis glomerata*) and common bent (*Agrostis capillaris*), with forbs including common knapweed (*Centaurea nigra*), ground ivy (*Glechoma hederacea*), common sorrel (*Rumex acetosa*) and yarrow (*Achillea millefolium*). No rare or notable plant species were recorded, though the extensive sorrel is indicative of an unimproved sward.

c) Orchard

Several fruit trees are scattered throughout the area of rough grassland to the east of the barn including several apple (*malus sp.*) and plum (*Prunus sp.*) trees (Photos 6 and 7).

d) Hedgerows

Hedgerows form the northern (H1), eastern (H2) and western boundaries (H3 and H4) of the application site.

Hedgerow H1 extends along the northern boundary and comprises a section of overgrown hawthorn (*Crataegus monogyna*) hedge interspersed with occasional trees including grey willow (*Salix cinerea*), and a mature ash (*Fraxinus excelsior*) in the far north-east corner of the hedge (Photo 7). Sections of elm (*Ulmus minor*) and hawthorn hedgerow exist towards the north-west corner of the site. A mature elm and hawthorn hedge H2 with occasional trees including field maple (*Acer campestre*) and hornbeam extends along the eastern boundary (Photo 8).

Hedgerow H3 (Photo 9) comprising hawthorn, blackthorn (*Prunus spinosa*), field maple, bullace (*prunus domestica subsp.*), and dog rose (*rosa canina*) extends along part of the western boundary to the south of barn/site access. North of the site access is a section of field maple, common dogwood (*Cornus sanguinea*), dog rose and blackthorn hedgerow (H4) interspersed with oak trees (*Quercus sp.*) (Photo 10). A section of hornbeam (*Carpinus betulus*) hedge H5 (Photo 11) divides the rough grassland and orchard area from an area of mostly mown lawn to the south.

e) Scattered trees

Numerous trees are present in the gardens to the east/south and west of the barn, with species recorded including silver birch (*Betula pendula*), hornbeam, laburnum (*Laburnum anagyroides*), field maple, white willow (*Salix alba*), grey willow (*Salix cinerea*), ash and horse chestnut (*Aesculus hippocastanum*).

f) Woodland

An area of woodland exists in the southern part of the application site, mostly comprising oak, hazel (*Corylus avellana*) and ash, with areas of dense blackthorn, hawthorn and willow (*Salix sp*) scrub also present (Photos 12 and 13). A public footpath borders the woodland to the south (Photo 14).

g) Ruderal

Ruderal vegetation, mostly comprising common nettle (*Urtica dioica*), has established in parts of the site including along the edge of the barn (east elevation) (Photo 2), beneath trees to the west of the woodland (Photo 15) and around the ponds (Photos 16 to 18).

h) Ditch

A dry ditch extends along the northern edge of the woodland area.

4.3.2

Amphibians and reptiles

a) Amphibians

i) Ponds

Pond P1 is a small pond located c. 20m south-west of the barn (Photo 16). The pond is heavily shaded by the overhanging branches and canopies of the trees and shrubs that surround it, with a low water level at the time of the site walkover. Some pendulous sedge (*Carex pendula*) is growing around the pond margins, however true macrophyte cover is absent. Pond P1 was assessed as supporting *Poor habitat suitability for GCNs* (HSI score = 0.49), though it may be used by other breeding amphibians.

Pond P2 is a larger pond located in the south-west corner of the site (Photo 17). The pond is less shaded than pond P1 though the water level was low at the time of the site walkover after a period of above average rainfall (end of September to November). Duckweed (*Lemna minor*) was growing in the pond with patchy marginal vegetation comprising common nettle present in areas. Pond P2 provides suitable breeding habitat for amphibians and was assessed as supporting *Good habitat suitability for GCNs* (HSI score = 0.74).

ii) Terrestrial habitat

The rough grassland offers high value foraging habitat for common amphibians, whilst the hedgerows, ditch and the woodland provide potential refuge, dispersal and hibernation habitats. Log piles/ deadwood sited close to pond P2 and north of the rough grassland by hedgerow H1 offer potential hibernation habitat (Photos 18 and 19).

b) Reptiles

The areas of rough grassland and ponds offer good hunting/foraging habitat for grass snake, whilst hedgerows, the ditch and woodland provide potential refuge and dispersal habitats.

4.3.3

Bats

a) Preliminary Roost Assessment (PRA)

An interior inspection of the barn found a light scattering of pipistrelle (*Pipistrellus sp.*) (c.10) (Photo 21) and brown long-eared (*Plecotus auritus*) (BLE) droppings (c. 20) (Photo 22) throughout the attic. A couple of small accumulations of pipistrelle droppings were present behind the timber cladding at the southern gable end. This indicates the small numbers of roosting pipistrelle bats are using the barn as a day roost, whilst BLE may be using the barn as a day roost, night roost or feeding perch (Photo 20).

b) Tree assessment

No trees existing within the footprint of the proposed detached garage or the holiday pods which have the potential to support roosting bats.

d) Commuting and foraging habitat

The boundary hedgerows/trees and the woodland area are well linked to linear features (e.g., hedgerows) in the wider landscape and therefore provide High value commuting habitat for bats (Collins, 2016). Suitable foraging habitat also exists on site including around the fruit trees (small orchard), along hedgerows and the woodland edge, and over the rough grassland and ponds. These habitats will also support a number of invertebrate prey species.

4.3.4

Nesting birds

No evidence of historical nesting by notable/protected bird species was found in the barn though it could potentially support nesting and roosting small passerines such as house sparrow (*Passer domesticus*) (Red Status; S.41) and robin (*Erithacus rubecula*).

The rough grassland, trees, hedgerows and woodland present on-site offer potential nesting, foraging and song perch habitat for a range of garden birds including small passerines such as dunnock (*Prunella modularis*) (Amber Status; S. 41 List), song thrush (*Turdus philomelos*) (Red List; S. 41 List), blackbird (*Turdus merula*) and wren (*Troglodytes troglodytes*), whilst fruit trees will attract resident and migrant bird species such as fieldfare (*Turdus pilaris*) (Red Status, WCA1i) and redwing (*Turdus iliacus*) (Red Status, WCA1i) by providing a seasonal source of food.

A pair of (*Streptopelia turtur*) (Red Status; S.41) and a bullfinch (*Pyrrhula pyrrhula*) (Amber Status) were often seen foraging in the garden (Owner *pers. obs.*) during 2020. Turtle dove favour tall mature hedgerows, woodland edge and dense scrub habitat which are present on-site and were seen foraging on seeds from bird feeders in the garden. They could potentially have nested within the application site where the holiday pods are proposed, but they could also be nesting locally within existing hedgerows including the bridleway which extends all the way to the A140 to the east and the area of woodland at Tan Office.

4.3.5

Badger

No signs of setts/spoil heaps, pathways, scratching posts, snuffle holes, day nests, faeces, guard hairs, or footprints were observed on site.

4.3.6 S. 41 habitats and species

Habitats

Hedgerows H1 to H4 comprise native shrub and tree species and therefore meet the criteria to be considered S. 41 hedgerow habitats. H5 is of a relatively young age (<30 years old) and is therefore not considered a S. 41 list hedgerow habitat. The woodland area to the south of the gardens could be considered as S. 41 habitat, though it comprises mostly of scrub and immature stands with small number of mature trees. The small area of fruit trees meet the criteria for orchard habitat.

Species

Hedgehogs will forage over the rough grassland and will seek refuge within the bases of hedgerows and along the woodland edge, whilst brown hare (*Lepus europaeus*) may inhabit adjacent arable fields and occasionally enter the garden.

The woodland, hedgerows, scattered trees and rough grassland could support some S. 41 list invertebrates.

4.3.6 Non-native invasive plants

No non-native invasive species were recorded within the application site boundary.

4.4 GEOGRAPHIC CONTEXT

The geographic context of a feature (Table 4.4) is a useful consideration within an assessment of impacts. The values below are based on the information in table A3.1 informed by expert judgement.

Table 4.4 Feature value based on geographic context

Feature	Value
Rough grassland, trees, scrub, hedgerows, woodland and ponds	Local
Amphibians and reptiles	Local
Bats	Local
Nesting birds	Local
S. 41 habitats and species	Local

5 Assessment and recommendations

5.1 INTRODUCTION

The following section provides a summary description of the proposed development, with an assessment of associated impacts and likely significant effects upon biodiversity.

The assessment and recommendations are based on use of the mitigation hierarchy, which in the first instance aims to avoid impacts. Where impacts cannot be avoided, they should be minimised (through mitigation). Only where impacts cannot be avoided or minimised should there be compensation for biodiversity harm.

Ecological enhancements are suggested, and consideration is given to individual as well as overall net gains or losses of biodiversity.

5.2 DESCRIPTION OF PROPOSED DEVELOPMENTS

Proposed works relevant to the impact assessment includes the demolition of the existing barn with some limited tree and scrub removal and excavation of footings, which has the potential to impact upon roosting bats, amphibians, nesting/roosting birds and small mammals. Some localised vegetation clearance of lawn and shrubs will also be required.

Localised scrub, ruderal vegetation and tree removal will be required for the cart lodge, car parking and holiday pod elements of the scheme.

The assessment below is based upon the presumption that retained habitats (Figure 3) will remain unaffected by the proposed scheme. Recommendations for mitigation, compensation and enhancements are based on drawings available at the time of writing (notably Roger Balmer Design No. 4520 - 07 B) and should be updated accordingly if the scheme is subsequently amended.

5.3 FURTHER SURVEYS REQUIRED

The presence of bat droppings in the barn proposed for demolition confirms the likely presence of day roosting pipistrelles and possible day/night roosting BLE bats. A minimum of two activity (dusk emergence/dawn swarming) surveys are required with at least one of the surveys during May to July inclusive to confirm the presence/likely absence of a maternity roost. If no bats are recorded during the first two surveys a third survey may be required.

GCN presence/likely absence surveys are required for ponds P1 and P2 and (subject to access) ponds to the north, during mid-March to mid-June (April to the end of June for eDNA surveys).

The proposed bat and GCN surveys would allow the LPA to discharge their legal duty regarding the 3 derogations tests when assessing potential impacts on European Protected Species (EPS).

It is generally advised that subject to no significant change in site management regimes, and dependent on the species present, baseline survey results typically 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.

In order to avoid offences under the relevant wildlife legislation, no significant changes to existing habitat management practices should occur on the site prior to development commencing, without the prior advice of a suitably experienced ecologist.

5.4 **ASSESSMENT OF IMPACTS**

The EclA assessment process (CIEEM, 2018) involves:

- Identifying and characterising impacts and their effects;
- Incorporating measures to avoid and mitigate negative impacts and effects;
- Assessing the significance of any residual effects after mitigation;
- Identifying appropriate compensation measures to offset significant residual effects; and
- Identifying opportunities for ecological enhancement.

The emphasis in EclA is on the assessment of ‘significant effects’ i.e. an effect that either supports or undermines biodiversity conservation objectives for ‘important ecological features’ or for biodiversity in general. In broad terms significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species including extent, abundance and distribution.

The ecological features to be subject to detailed assessment in this report are those judged to be important and potentially affected by the project; protected species are included where the development will result in a potential breach of legislation.

5.5 **HABITATS AND VASCULAR PLANTS**

a) Potential impacts

Vegetation clearance and construction activities will result in the permanent loss of small areas of unmanaged grassland/lawn where the proposed holiday let extends into the existing grassland beyond the footprint of the existing barn. Areas of ruderal vegetation, scrub habitat and a small number of broad-leaved trees will be permanently lost under the footprint of the proposed cart lodge, car parking areas and the holiday pod accommodation. These impacts are considered a negative effect at the local level. Losses will in part be off-set through proposed hedgerow and tree planting.

The construction phase has the potential to damage existing ponds through accidental pollution and siltation. Water quality impacts as a result of inadequate sewerage could impact the ponds during the operational phase. Such impacts would have a significant negative effect at the local scale.

b) Mitigation

Retained habitats including rough grassland hedgerows, scrub and trees should be protected with temporary fencing (e.g. Heras, or road pins and netlon fencing) and e.g. Root Protection Areas (RPAs) as per any detailed landscaping proposals.

A contractor Risk Assessment Method Statement (RAMS) or similar should be developed ahead of works commencing to ensure Good Practice measures are used

to avoid and/or minimise the risk of pollution. Measures may include, but are not exclusive to:

- Locating any site compounds (including any fuel storage) away from the pond;
- Limiting topsoil removal as required and covering topsoil whilst stockpiled;
- Cleaning machinery in designated areas with a sump and re-using waste water where possible or discharging via a sewer or tanker only;
- Storing chemical and fuels securely within double-bunded bowsters or chemical stores (with a 110% capacity to contain any spillage) away from the pond;
- Using water based, non-toxic and biodegradable chemicals and fuels where possible;
- Mixing and washing chemicals and associated equipment in designated areas with waste water safely disposed of via mains sewerage or tanker as appropriate;
- Use of biodegradable hydraulic and fuel oils;
- Having adequate site security in place; regularly checking equipment for failures and/or leaks; and
- Keeping spill kits and booms present on the site and ensuring staff are trained in their use.

Further information is available via the Guidance for Pollution Prevention - Works and maintenance in or near water: GPP 5 January 2017 document, produced by Natural Resources Wales (NRW), the Northern Ireland Environment Agency (NIEA) and the Scottish Environment Protection Agency (SEPA)⁸.

c) Residual effects

The majority of trees, lawns, fruit trees, rough grassland and all boundary hedgerows will be retained, but removal of the trees and scrub will have a negative effect and require compensation as part of proposed site land-scaping (see 5.10).

5.6 AMPHIBIANS AND REPTILES

a) *Potential impacts*

The proposed GCN surveys will determine whether the proposals have the potential to impact GCNs, and therefore whether species specific mitigation and/or a NE licence are required for the scheme.

Vegetation clearance, ground-breaking and construction activities will result in temporary and permanent losses of potential refuge and foraging habitat for various amphibian species and grass snake, with potential entrapment resulting the injury and mortality of individuals due to the presence of trenches (including caustic materials such as wet concrete), and temporary stockpiles of soil and demolition waste. Disturbance/removal of habitat piles has the potential to disturb/harm individuals.

Such impacts could have significant negative effects on a small number of animals at the local level.

During the operational phase gully pots and down pipes connecting to closed surface water drainage which would result in animals becoming trapped (Muir *et al.* 2012), could result in permanent negative effects.

⁸ <http://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf>

b) Mitigation

As per 5.5.

Good practice site clearance and construction measures must be implemented as follows:

- Existing lawns should be kept short with regular mowing;
- All initial clearance, including any phased for different parts of the scheme, should be undertaken under the supervision of a suitably experienced ecologist or Ecological Clerk of Works (ECoW).
- Trees and scrub should be cleared sensitively as follows:
 - ❖ Cutting to c. 200mm above ground level with arisings removed off site; and
 - ❖ Root balls should be removed when amphibians and reptiles are readily active (e.g. April to September to October) and not becoming torpid.
- Trenches left overnight must be covered with ply/OSB sheets and any gaps filled with damp sharp sand, or amphibian/mammal ramps/ladders (wooden planks set at an angle at the edge of each trench run) placed and all trenches checked daily;
- Footings and concrete slabs should be poured during the morning to ensure they have hardened off prior to evening to reduce the risk of animals encountering wet concrete, or covered with ply boarding or membrane overnight;
- 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 coming into contact with wet concrete;
- 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;
- Any excess cement/concrete should be poured into a concrete skip, so it can then set to prevent animals coming into contact. Equipment must be cleaned off in a location to avoid pollution of the watercourse;
- All building materials should be stored on bare ground or hard standing, or stored off the ground on pallets;
- 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
- Should any common amphibians or reptiles encountered they should be allowed to displace or be carefully moved into retained habitat (e.g. boundaries). Depending on whether and what type of NE licence is secured in relation to GCNs, an ecologist may need to be called if any suspected GCNs (Appendix A4) are encountered.
- If utilised, installed gully pots for surface water drainage should be raised above ground level, sealed or covered with a fine grate cover to prevent entrapment issues. Roadside gullies, if used, should be situated ≥ 100 mm from kerbs to maintain function while reducing the probability of animals falling in, OR a wildlife friendly kerb should be installed OR amphibian (gully pot) ladders must be installed into each gully pot⁹.
- Downpipes taking water off the roofs should be sealed at ground level by using a leaf and debris screen¹⁰ to prevent amphibians entering drains.

c) Residual effects

With appropriate mitigation, there will be no significant effects during the construction or operational phases.

⁹ <https://www.thebhs.org/the-bhs-amphibian-gully-pot-ladder>

¹⁰ <https://www.drainagepipe.co.uk/leaf-and-debris-gully-110mm-p-D94G/>

5.7

BATS

a) *Potential impacts*

The proposed further bat surveys will determine the significance of any roosts present in the barn, but based on the evidence of the PRA survey, the barn is likely to support small numbers of BLE and pipistrelle bats. Their destruction would be a significant negative effect at the local level.

Vegetation clearance and subsequent site development will result in the permanent losses of foraging habitat albeit small in extent and considered insignificant. Lighting during the construction and operational phases could impact foraging and emergence behaviour and increase the risk of predation. Such impacts would have a significant negative effect for a small number of individuals at the local level.

If the proposed dwelling has a traditional pitched roof with clay pantile or plain tiles there is the potential for bats to access under the tiles and come into contact with the underfelt. Should a modern breathable roof membrane (BRM) be used bats could potentially become entangled considered a significant effect at the local level.

In combination, the above impacts have the potential to result in a significant negative effect upon the conservation status of bats at a local level.

b) *Mitigation*

The loss of bat roosts in the barn will require a European Protected Species (EPS) Mitigation licence issued by NE.

BRMs should not be used under handmade or reclaimed pantiles or clay peg/plain tiles or where gaps are >4mm; traditional Type 1F roofing felt or a breathable sarking board (e.g. Hunton Sarket or Pavatex Isolair) must be used instead.

Exterior lighting (as well as temporary security lighting during the construction phase) design must minimise lighting impacts upon retained foraging, boundary and adjacent habitats, and should follow current guidance¹¹¹²:

Type of lamp (light source): Light levels should be as low as possible as required to fulfil the lighting need. Lighting should have a maximum of 7.5 to 10 lux and LED lamps should be used using the warm white (or amber) spectrum, with peak wavelengths >550nm (2700 or 3000°K) and no UV component; and

Lighting design: Lighting should be directed to where it is needed, with minimal horizontal spillage towards retained habitats. This can be achieved by restricting the height of the lighting columns and the design of the luminaire, including the following measure:

- Light columns/fixtures 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.

¹¹ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting>

¹² www.eurobats.org/sites/default/files/documents/publications/publication_series/WEB_DIN_A4_EUROBATS_08_ENGL_NVK_28022019.pdf

- If taller lights are required, and as a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill; and
- PIR movement sensors and timers should be used to minimise the 'lit time' (up to 1 minute).

c) Residual effects

With mitigation implemented, lighting impacts will be minimised, but the demolition of the barn will result in the permanent loss of pipistrelle day roosts and the permanent loss of a BLE day or night roost which will require compensation (see section 5.10). There will be a minor net loss of foraging habitat which requires compensation as per the proposed site landscaping.

5.8

NESTING BIRDS

a) Potential impacts

Vegetation clearance will result in permanent losses of nesting and foraging habitat and the potential destruction of active nests, whilst increased noise levels (construction phase) could affect the ability of birds to hold territories during the breeding season. The holiday pods will result in the increased presence of humans within the area of woodland along the bridleway which could discourage some flighty species such as turtle dove from nesting.

Such impacts would result in temporary to permanent negative effects upon low numbers of individuals.

b) Mitigation

As per 5.5.

Vegetation clearance must take place outside of the nesting bird season (March to August inclusive). If for any reason this is not feasible then a suitably experienced ecologist (ECoW) should check for nesting birds prior to vegetation removal.

c) Residual effects

Physical impacts upon active nests during construction will be avoided. The loss of trees requires compensatory planting to mitigate potential noise and visual disturbance effects of the holiday pods once operational.

5.9

OTHER S. 41 LIST HABITATS AND SPECIES

a) Potential impacts

No S. 41 list hedgerows or any of the fruit trees will be removed based on the current site layout. However, some scrub and immature trees require removal within the area of woodland which would be a significant negative effect at the local level.

Vegetation clearance, ground-breaking and construction activities will result in temporary and permanent losses of cover, nesting and foraging habitat for hedgehog, with potential entrapment, injury and mortality of individuals due to presence of trenches, caustic and building materials. Any closed board fencing around garden boundaries would result in reduced foraging opportunities once construction works are completed. Such impacts would result in negative effects upon individuals and potentially population size at a local scale.

b) Mitigation

As per 5.5.

All initial clearance, including any phased for different parts of the scheme, should be undertaken under the supervision of a suitably experienced ecologist or ECoW. Any areas of dense e.g. scrub vegetation, to be cleared should be removed in early autumn to avoid impacts upon nesting hedgehog. 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 hedgehog until temperatures are regularly (6 consecutive days/nights) maintained above 6°C.

During construction, concrete should be poured early in the day or covered with ply boarding or membrane overnight to prevent hedgehog coming into contact. Trenches should be covered overnight and checked daily.

If close board fencing and/or ground level gates are used hedgehog highways¹³ using 13x13cm holes along the bottom to allow the dispersal of animals into gardens to avoid foraging impacts. The location of hedgehog gaps should be agreed with an ecologist.

c) Residual effects

No significant effects are anticipated.

5.10

COMPENSATION

Residual significant negative effects upon habitats and species which require compensation relate to the demolition of the barn which will result in the permanent loss of day roosts used by common bat species, and the loss of areas of scrub, immature trees and ruderal vegetation where the cart lodge, car parking areas and holiday pod accommodation are proposed.

Compensatory bat boxes (Appendix A5) will be required as part of the NE EPS licence and should be erected on retained trees, whilst bat access could be provided into the roof void of the proposed cart lodge.

On-site landscaping includes some native tree and shrub planting between and to the south of the proposed holiday pod accommodation, whilst 45m of new native, mixed species-rich hedgerows are proposed as part of the landscaping for the proposed holiday let. Turf or grass seeding specifications should match local soil conditions (e.g. neutral)¹⁴ and green corridors should be maintained around the boundary of the site.

To offset loss of nesting habitat for small passerines in the barn, 2 sparrow terraces and 2 robin (*Erithacus rubecula*) boxes (Appendix A6) should be erected on the north elevation of the existing dwelling (sparrow terraces) and retained trees across the scheme, at locations agreed with a suitably experienced ecologist.

5.11

CUMULATIVE EFFECTS

The Mid Suffolk District Council planning website was searched (23/11/2020) for other relevant planning applications within a 1km buffer of the application site dating back

¹³ www.hedgehogstreet.org/help-hedgehogs/link-your-garden/

¹⁴ E.g. <https://wildseed.co.uk/mixtures/view/38>

two years. Refused applications were not considered in relation to potential cumulative ecological effects. Applications considered relevant are listed below.

- An outline planning application was granted permission (DC/19/05478) for (some matters reserved - access and layout to be considered) the erection of three warehouse units (Class B8) with new access. Protected species surveys for reptiles, GCNs and invertebrates were undertaken, with low numbers of grass snake, no GCN and several Red List invertebrates recorded. The delegated officers report included the requirement for a Biodiversity Method Statement and Biodiversity Enhancement Strategy for protected and priority species as conditions prior to commencement of development.
- Full planning permission was granted (DC/20/01454) for the erection of a scout hut (First Mendlesham Scout Group). An ecological assessment and subsequent ecological appraisal report stated that “*subject to the recommendations above, the risk of potential ecological impacts as a result of the proposed scheme is considered minimal.*” The delegated officers report included the requirement for a Biodiversity Method Statement and a sensitive lighting scheme as conditions prior to development commencing.

Mitigation measures proposed are considered appropriate for the current scheme, such that cumulative effects are considered unlikely.

5.12

ENHANCEMENT OPPORTUNITIES

Recommended mitigation and compensation measures will address biodiversity losses from the scheme. A minimum of 6 of the 8 following enhancement measures should further be implemented to maximise biodiversity benefits delivered as part of the scheme:

1. The existing hedgerow along the northern and eastern site boundaries could be coppiced to encourage regrowth and basal growth to fill existing gaps. Some trees and taller sections could be left as song perches. Any larger gaps could be strengthened by planting up any gaps with native woody shrubs to increase the hedgerows diversity.
2. Dutch elm disease resistant elm cultivars could be planted to provide habitat for invertebrates such as the white-letter hairstreak (*Satyrion w-album*) butterfly the caterpillars of which feed on the leaves;
3. Integrated swift boxes¹⁵ could be incorporated into the proposed holiday let with final location and installation details agreed with a suitably experienced ecologist (to maximise use/minimise nuisance issues). As colony nesters, a minimum of 6 boxes should be installed. Guidance and materials should be provided to the home owner to encourage the attraction of birds once the properties are occupied;
4. Two tree creeper (*Certhia familiaris*) boxes (Appendix A6) could be erected on retained trees along the eastern site boundary and 2 starling (Appendix A6) boxes could be erected on the west facing elevation of the existing or the proposed holiday let or suitable trees;
5. Amphibians and reptiles: A grass snake egg laying area (Appendix A7) could be created in the gardens of the holiday let and could be used for composting of lawn/hedgerow clippings etc;

¹⁵ <https://www.swift-conservation.org/Leaflet%20-%20Swift%20Nest%20Bricks%20-%20installation%20&%20suppliers-small.pdf>

6. Nectar rich climbers such honeysuckle and wild clematis could be planted within existing boundary hedgerows every 10 to 15m to provide nectar sources for pollinator species and habitat for small mammals;
7. Pond P2 could be enhanced by desilting, cutting back some existing trees and feeding water from the proposed cart lodge into the pond to allow higher retained water levels. Native marginal and floating leaved aquatic plants could be planted; and
8. An invertebrate loggery could be created (see Appendix A8) below existing trees within the woodland to the east of the proposed holiday pods.

5.13

CONCLUSIONS

The proposed mitigation, compensation and enhancement measures should ensure the proposed scheme avoids net losses of biodiversity and will maximise biodiversity enhancements provided within the application site boundary.

Measures proposed should be secured through appropriate planning conditions as per the British Standard (BS 42020:2013¹). These could include conditions specific to breeding birds (e.g. BS 42020:2013 D.3.2.1), bats (e.g. BS 42020:2013 D.3.5), and/or with a Biodiversity Method Statement (e.g. BS 42020:2013 D.2.1) to detail mitigation, compensation and enhancement implementation.

Further surveys and detailed mitigation scoping are required in relation to GCNs and bats.

6 References

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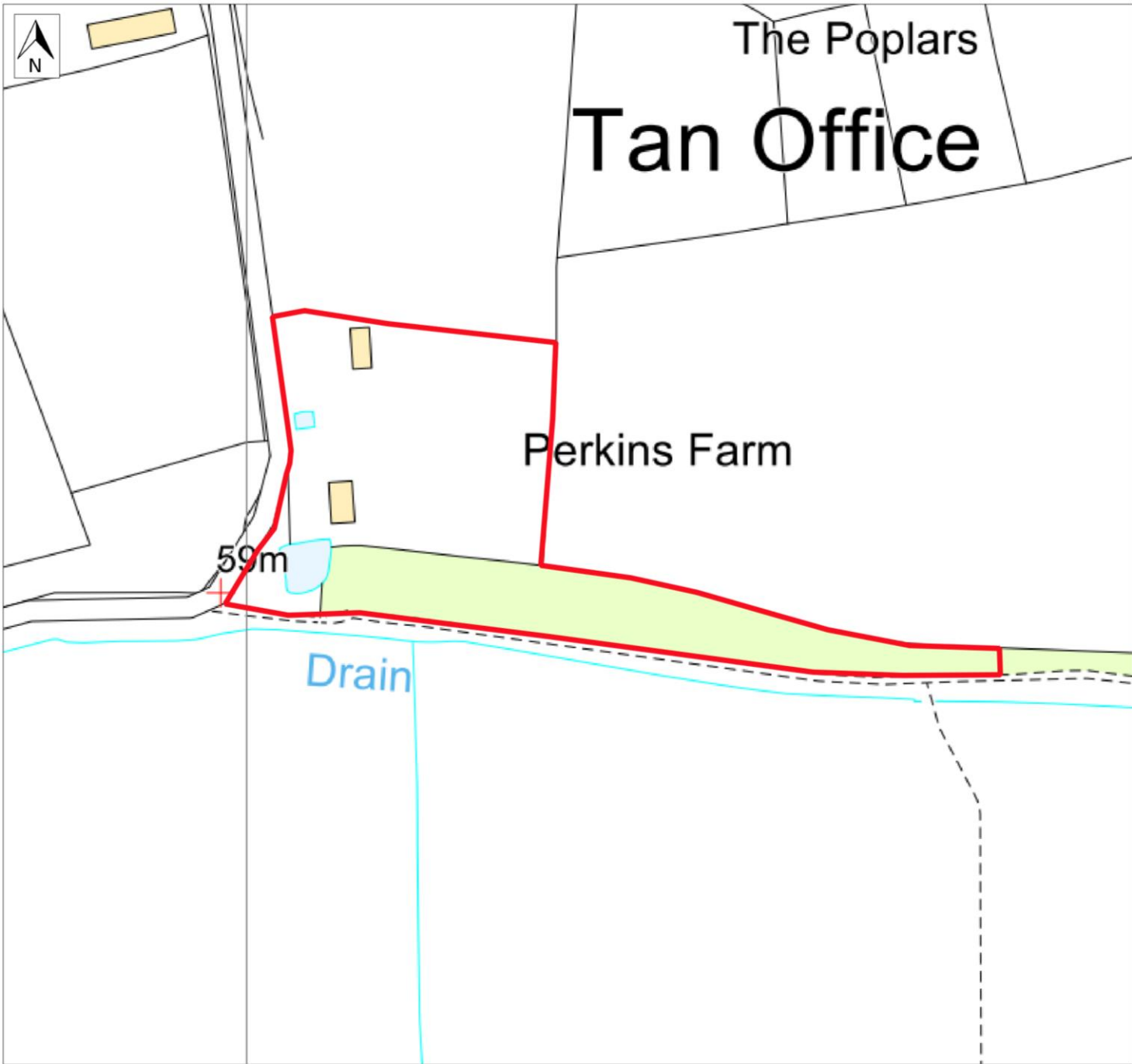
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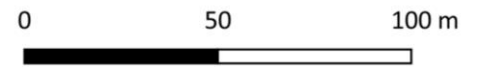
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Figures



Legend

 Application site boundary

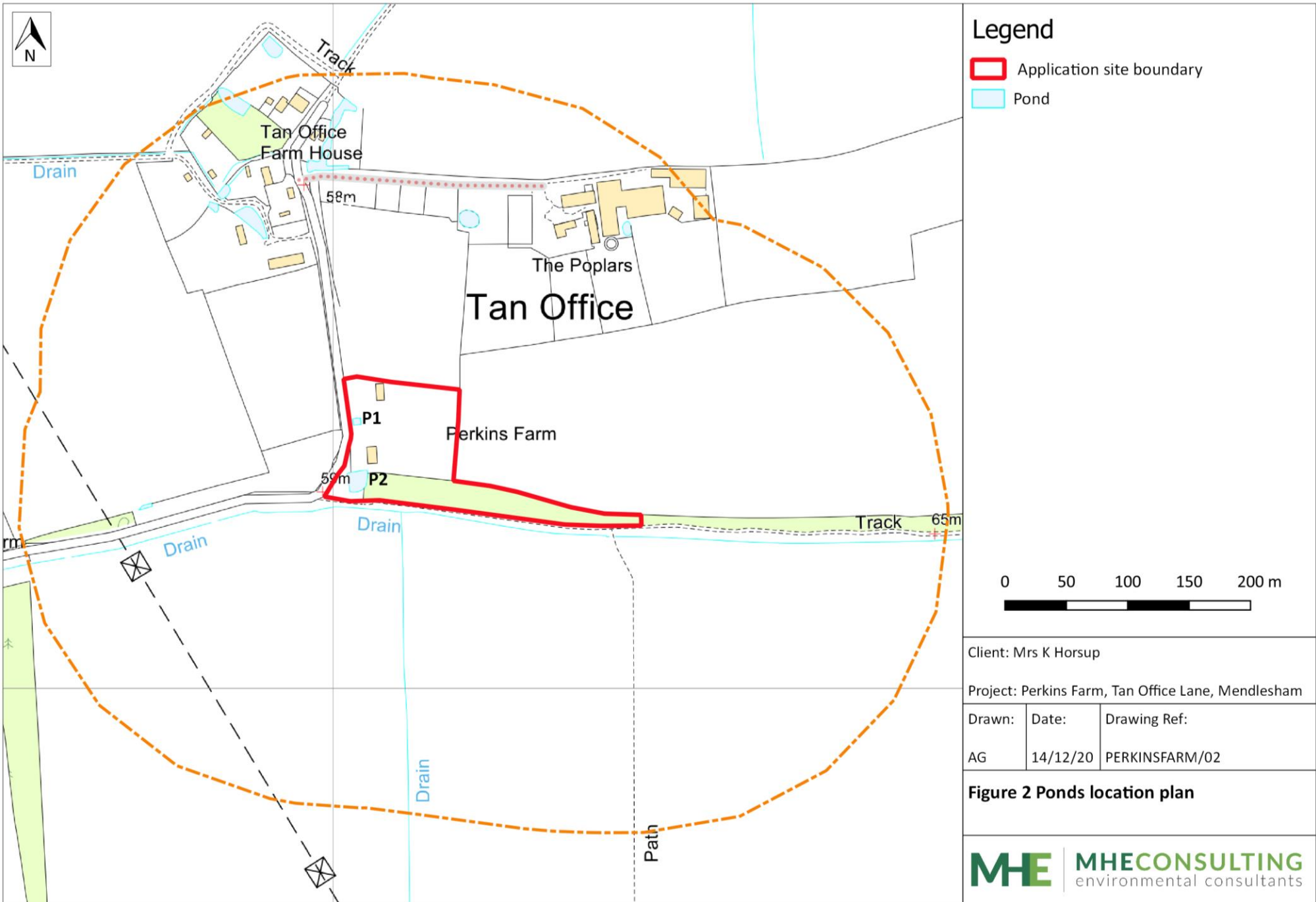


Client: Mrs K Horsup

Project: Perkins Farm, Tan Office Lane, Mendlesham

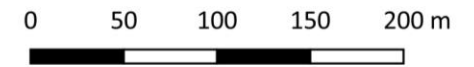
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AG	14/12/20	PERKINSFARM/01

Figure 1 Site location plan



Legend

- Application site boundary
- Pond



Client: Mrs K Horsup

Project: Perkins Farm, Tan Office Lane, Mendlesham

Drawn:	Date:	Drawing Ref:
AG	14/12/20	PERKINSFARM/02

Figure 2 Ponds location plan



Legend

Areas unaffected by the proposed works

Client: Mrs K Horsup		
Project: Perkins Farm, Tan Office Lane, Mendlesham		
Drawn:	Date:	Drawing Ref:
CW	15/02/21	PERKINSFARM/003

Figure 3 Habitats plan

Appendices

Appendix A1 Photos



Photo 1 South and west elevations of barn



Photo 2 East elevation of barn



Photo 3 Bare ground/parking area immediately west of barn



Photo 4 Driveway/site access west of barn



Photo 5 Polytunnel located c.10m south-east of the barn



Photo 6 Fruit trees and rough grassland east of the barn



Photo 7 View of rough grassland with mown strips, fruit trees and trees along northern boundary H1



Photo 8 Hawthorn and elm hedgerow H2 along part of eastern boundary (north-east corner)



Photo 9 Roadside section of hedgerow H3 along western boundary (south of barn) looking north



Photo 10 Roadside section of hedgerow H3 along western boundary (adjacent to barn) - looking north



Photo 11 Rough grassland and hornbeam hedgerow H5 dividing gardens to east and south of barn



Photo 12 Woodland and scrub forming southern part of application site where the glamping pods are proposed



Photo 13 Woodland and scrub forming southern part of application site – looking west



Photo 14 Trees and ruderal vegetation to the west of woodland where the cart lodge is proposed.



Photo 15 Footpath to the south of woodland area



Photo 16 Pond P1



Photo 17 Pond P2



Photo 18 Log pile adjacent to pond P1 – potential amphibian/reptile refugia



Photo 19 Log pile adjacent to northern boundary of site



Photo 20 Warped timber cladding on the south gable end of the barn.

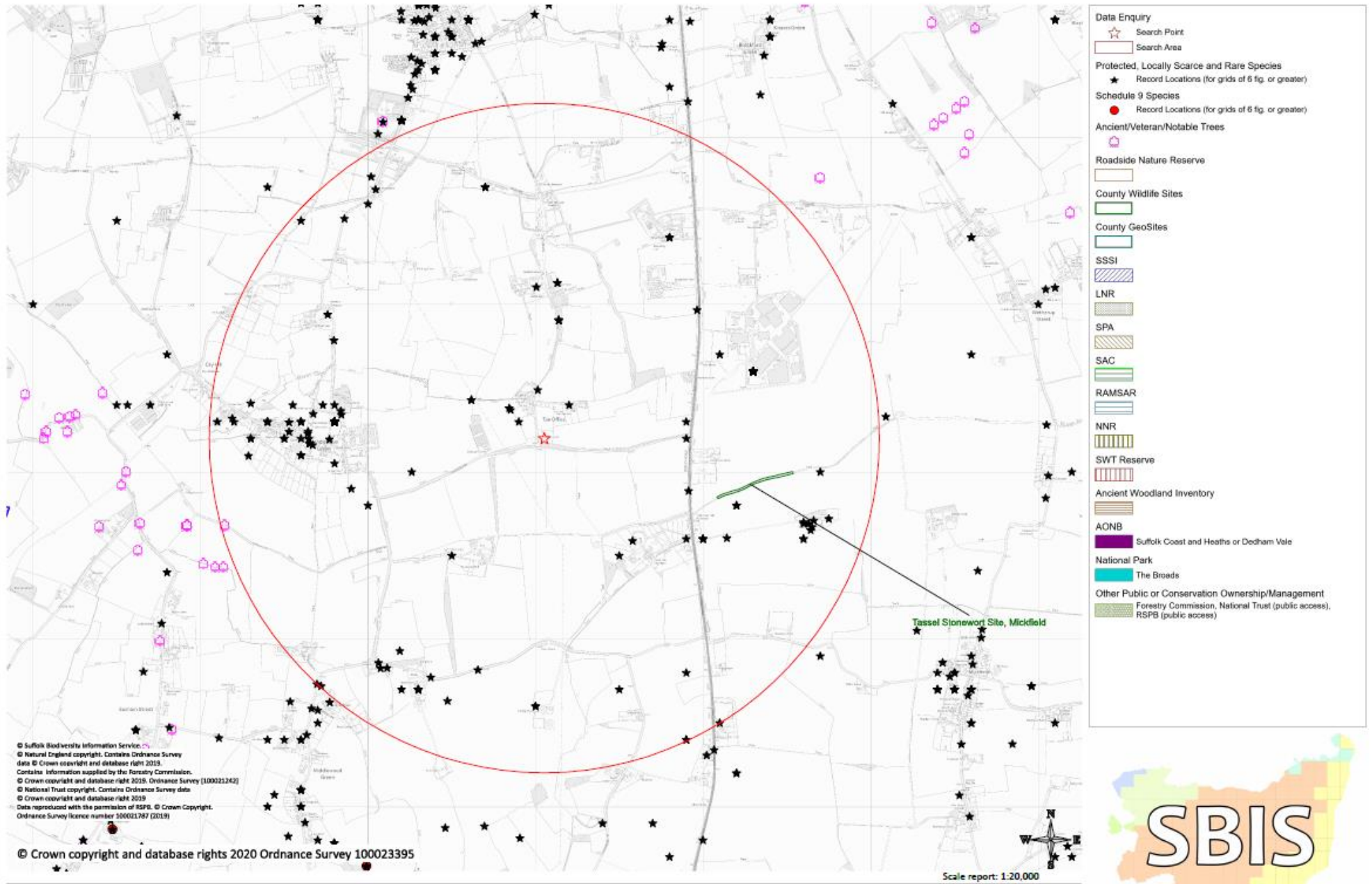


Photo 21 Scattered pipistrelle droppings interior of the south gable end of the barn



Photo 22 Scattered BLE droppings on a beam in the attic of barn

Appendix A2 SBIS data map



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© Crown copyright and database rights 2020 Ordnance Survey 100023395

MHE Consulting (Mendlesham TM1105263199) 2km Data Enquiry



Suffolk Biodiversity Information Service

Date: 06/11/2020 | Drawn by: Andy Mercer

Appendix A3 EclA criteria

A3.1 General criteria for geographic context/value

Designation	Example
International	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. • A sustainable population of a BAP species not included in the 'national' category above for which a county Action Plan exists.
Local	<ul style="list-style-type: none"> • 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.

Appendix A4 GCN notification signage

Great Crested Newt

If seen by any employee, works must cease immediately and an ecologist be contacted for advice

It is an offence to intentionally or recklessly disturb, injure or kill great crested newts

Further information can be found at www.arguk.org



Appendix A5 Bat boxes



Vincent Pro Bat Box



Woodstone multi-chamber box

The Kent bat box

Simple to construct, self-cleaning and low maintenance.

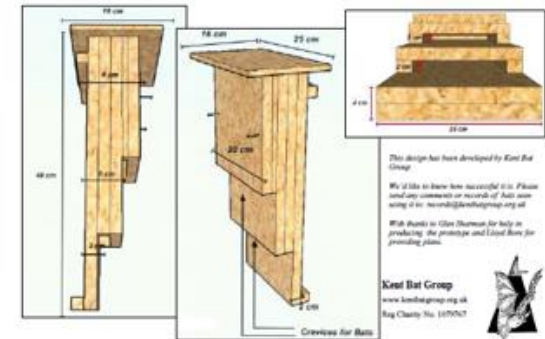
The only critical measurement is the width of the crevices—these should be no larger than suggested. Other measurements are approximate.

Materials and construction

Box to be made from untreated rough-sawn timbers
 Timber should be c.20mm thick
 The box should be rainproof and drought-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 box

Appendix A6 Bird boxes

RSPB Sparrow terrace nest box

Product Code: R407816

Qty

£ 29.99



In Stock

ADD TO BASKET

Product Information | Product details | Ratings & Reviews

PROMOTIONAL NEST BOXES!

- Add two promotional nest boxes to your basket to save £2
- Offer ends 5th January 2020 and is subject to availability
- Loyalty points can be collected/redeemed as usual
- Not available in conjunction with any other offer



barkboxes.co.uk/product/willow-tit/

Sign In | Fulcrum ... UK Grid Reference... National Biodiversit... Bing Maps Santander Online... Microsoft Office Ho... Jacobs Engineering... Jacobs Engineering...

BARK BOXES
Conserve and Enhance

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Willow Tit/Tree Creeper

£35.00

A long, thin box designed for fitting to smaller willow/birch trees, low to the ground, to encourage willow tit. Filled internally with damp sawdust/shavings/rotting wood as this species likes to excavate their own holes. The narrowing top crevice is designed to be suitable for roosting bats. Also suitable for tree creeper without the sawdust infill.

7 in stock (can be backordered)

- 1 + **Add to basket**

Category: bird and bat boxes


Description	Additional information	Reviews (0)
<i>Description</i>		

barkboxes.co.uk/product/open-fronted-nest-box/

Sign In | Fulcrum ... UK Grid Reference... National Biodiversit... Bing Maps ~ Santander Online... Microsoft Office Ho... Jacobs Engineering... Jacobs Engineering... Worldw...

BARK BOXES
Conserve and Enhance

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Open Fronted Nest Box

£25.00

For birds such as robin and pied wagtail. Open fronted but with a generous canopy to screen from aerial predators. Place in good cover not in the open.

43 in stock

- 1 + [Add to basket](#)

Category: bird and bat boxes

Description	Additional information	Reviews (0)
<p><i>Description</i></p> <p>Height tbc</p> <p>Width</p> <p>Depth</p> <p>Typical Weight</p>		

Visit the RSPB website

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Home > Bird care > Bird houses & nest boxes > Garden bird nest boxes > Apex starling nestbox [Print](#)

Apex starling nestbox

Product Code: R405836



Qty

£ 23.99

In Stock [ADD TO BASKET](#)

SAVE £2 WHEN YOU BUY TWO PROMOTIONAL NEST BOXES!

- Add two promotional nest boxes to your basket to save £2
- Offer ends 5th January 2020 and is subject to availability
- Loyalty points can be collected/redeemed as usual
- Not available in conjunction with any other offer

Appendix A7 Grass snake egg-laying heap

Creating grass snake egg-laying heaps



RAVON



ARG UK

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.

Introduction



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)

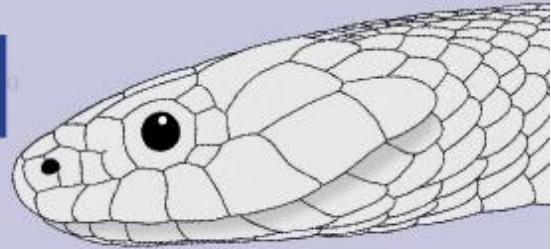


Distribution and habitat

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

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Appendix A8 Stag beetle loggery

Build a log pile for stag beetles

Stag beetles are one of the largest insects in the UK. They are in decline across Europe but there are many simple things you can do to help.

How you can help stag beetles

Stag beetles don't move far from where they emerge. Although males can fly up to 500m, most female stag beetles don't travel more than 20m and return to where they emerged to lay eggs. This means populations are vulnerable to becoming isolated and if there isn't enough dead wood nearby, dying out all together.

Private gardens are very important habitats for stag beetles. They rely on decaying wood that is in contact with the soil, both to feed on as larvae and in which to lay their eggs.

You can help by building a log pile in your garden to ensure that there is a good supply of suitable dead wood nearby for females to lay their eggs in.



Stag beetle larva

Stag beetle facts

- ▶ They are Britain's largest native terrestrial beetle
- ▶ The larvae develop underground in rotting wood for several years
- ▶ The adult only lives for a few weeks in the summer with the sole purpose of finding a mate
- ▶ Adult beetles don't eat but rely on the fat stores built up during their larval stage
- ▶ The male's antler-like jaws are used to fight off rival males

Images: Peter Cox, Ben Andrew, PPTIS



Please create a log pile for stag beetles and map it at www.ptes.org/stagbeetle. For more tips please see over.



How to make a log pile

- ▶ Log pyramids can be built at any time of year
- ▶ Use wood from any broadleaved tree
- ▶ The logs should be at least the thickness of an adults arm
- ▶ Site the logs in partial shade if possible to prevent them drying out
- ▶ Partially bury the logs in the soil so that they don't dry out
- ▶ Allow plants to grow over the log pyramid to retain moisture and provide shade

Your log pile will also benefit a range of other species including fungi, dead wood invertebrates and the animals that feed on them. It will be a great place for foraging small mammals, basking reptiles and potentially solitary bees.



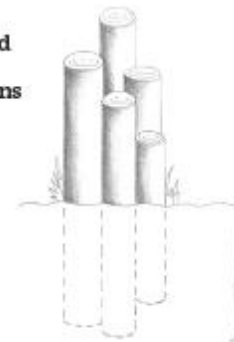
Large log pyramid suitable for parks and large gardens



Ground level

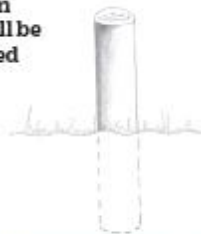
Approx. 50cm deep

Log pyramid suitable for small gardens



Approx. 50cm deep

Or, if space is limited, a single log on or in the soil will be appreciated



More tips for stag beetle friendly gardening

- ▶ Leave tree stumps in place if possible, they can become garden features with plants growing over them
- ▶ Try not to use pesticides
- ▶ Keep a lid on your water butt as stag beetles are known to fall in and drown
- ▶ Avoid using polythene sheeting to control weeds. Newly emerging stag beetles can get trapped beneath it in spring and die
- ▶ If you find larvae in the bottom of rotten fence posts and need to move them, dig a hole elsewhere in your garden and put them in together with some of the rotting wood from the original site. Cover loosely with soil

Images: Ross Brown, Steve Heywood

