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LODGE FARM
RAVELEY ROAD
GREAT RAVELEY
HUNTINGDON
PE28 2QZ

LODGE FARM BARNS
ECOLOGICAL IMPACT ASSESSMENT

January 2025
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for:

Lodge Farm Partnership

Report number: 1637/5

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LIMITATIONS AND EXCEPTIONS

Limitations of Surveys

This report records wildlife found during the survey and anecdotal evidence of some species. Access, seasonality and weather conditions may affect survey results. It does not record any animals or plants that may appear at other times of the year and were therefore not evident at the time(s) of the visit(s). Habitats outside the site boundary were only visited where considered appropriate and where access was available.

The behaviour of animals can be unpredictable and may not conform to standard patterns recorded in current scientific literature. Many species are highly mobile and can occupy a site which has previously held no potential for them and factors such as increasing habitat pressure can cause animals to occupy areas that were previously unoccupied, or which might be considered far from suitable. This report therefore cannot predict with absolute certainty that animal species will occur in apparently suitable locations or that they will not occur in locations or habitats which appear to be unsuitable.

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The Executive Summary, Conclusions and Recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon until considered in the context of the whole report.

Interpretations and recommendations contained in the report represent our professional opinions, which were arrived at in accordance with currently accepted industry practices at the time of reporting and based on current legislation in force at that time.

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Scientific survey data will be shared with local biological records centre in accordance with the CIEEM professional code of conduct.

Please note that Green Environmental Consultants Ltd is an ecological consultancy. Any information relating to legal matters in this report is provided in good faith but does not purport in any way to give any advice on or interpretation of the law whatsoever. Professional legal advice should always be sought.

The data, advice and opinion which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. I confirm that the opinions expressed are my true and professional *bona fide* opinions.

This ecological information is supplied in accordance with BS 42020 2013.



Jacqui Green BSc(Hons), MSc, CEcol, FCIEEM

LODGE FARM BARNS, LODGE FARM, RAVELEY ROAD, GREAT RAVELEY, HUNTINGDON, PE28 2QZ

ECOLOGICAL IMPACT ASSESSMENT

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SUMMARY

This report has been prepared by Green Environmental Consultants and relates to barns and workshops at Lodge Farm, Raveley Road, Great Raveley, Huntingdon PE28 2QZ (the 'Site'). The Site is centred on NGR TL 23242 81416; ///blemishes.bounty.pipe. It is proposed to demolish the unused barns and replace with four dwellings and landscaping.

Lodge Farm is a typical Cambridgeshire farm, with barns, workshops, storage areas and a dwelling and garden, within intensively farmed agricultural land. This farm has two barn complexes, one at the front (north) at Raveley Road and the second to the rear. It is the former barn complex at the front which is the subject of these proposals. The barns are approached via their own access track and are screened from the main farm access by a stand of planted mixed-species trees over amenity grassland. There is agriculturally improved grassland to north and west.

Results

An eDNA test of a the farmhouse pond tested positive for Great Crested Newts.

No evidence of bat use was found and negligible suitability for roosting bats.

Very old evidence of Barn Owl use of an open barn (very old pellets from a perching site).

Mitigation and Enhancement

Mitigation for newts will be required and a District Level Licence is an option. Mitigation for loss of poor quality grassland is provided by two areas of communal land plus a new native species-rich hedge. Mitigation for potential impacts from lighting is discussed as well as enhancements such provision of bird and bat boxes.

Biodiversity Net Gain

The proposals provide a net gain of 18.64% in area habitats and 168.68% gain in hedgerow units.

Conclusions

The Site is a farm yard complex of barns and workshop surrounded by hard-standing and some grassland. Whilst Great Crested Newts have been demonstrated to be in the near area, the Site habitats were mostly poor for this species, with little other wildlife interest. Subject to mitigation for newts such as a District Level Licence, minimal impacts on wildlife are forecast. In addition a good Biodiversity Net Gain can be achieved.

1 INTRODUCTION

1.1 Introduction and Objectives

This report has been prepared by Green Environmental Consultants Ltd on behalf of Lodge Farm Partnership. It relates to barns and workshops at Lodge Farm, Raveley Road, Great Raveley, Huntingdon PE28 2QZ (henceforth referred to as the 'Site'). The Site is centred on Ordnance Survey National Grid reference TL 23242 81416; ///blemishes.bounty.pipe. It is proposed to demolish the unused barns and replace with four dwellings.

1.2 Site Location and Description

Lodge Farm is a typical Cambridgeshire farm with barns, workshops, storage areas and a dwelling with garden. However this farm has two barn complexes, one at the front near the entrance at Raveley Road and the second to the rear. It is the former barn complex at the front (north) which is the subject of these proposals.

The barns are approached via their own access track, off the main farm access road, and are screened from the main farm access by a stand of planted mixed-species trees. They have agricultural grassland to the north and west.



Figure 1637/5/1 Site Location

1.3 Objectives

The purpose of this assessment is to provide evidence of the baseline condition existing at the time of survey, to identify further work required if any, and to advise on constraints to development that may arise from ecological issues. It has been produced in accordance with CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal*, 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester, the Chartered Institute of Ecology and Environmental Management (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland*. www.cieem.net. The survey was undertaken and the report written by Jacqui Green BSc(Hons), MSc, CEcol, FCIEEM. In the following report binomial scientific names are given after the first mention of a species only; plant names follow Stace 2019 nomenclature.

The objectives are:

- To undertake an extended Phase 1 survey of the proposed application area; and
- to undertake a scoping for protected or biodiversity species; and
- to undertake selected specialist species surveys as identified from the scoping; and
- to undertake an assessment of the Site's ecological value;
- to advise on constraints and mitigation; and
- to provide evidence of a gain in biodiversity.

2 METHODS

2.1 Desk Study

Both Lodge Farm and nearby Grange Farm are within the same ownership, for which a number of projects has been undertaken by the same ecologists. For those, the Cambridgeshire and Peterborough Environmental Records Centre and the Cambridgeshire Bat Group were consulted. It was considered unlikely that any new information would be forthcoming from a renewed data search and none has been undertaken. Natural England's Multi-Agency Geographic Information for the Countryside (MAGIC) database was accessed for information on statutory sites designated for nature conservation within a 2 km radius of the site and for protected species surveys and licenses issued.

2.2 Habitat Survey

A habitat survey was conducted following the 'Preliminary Ecological Appraisal' methodology set out in the 'Guidelines for Preliminary Ecological Appraisal' (Chartered Institute of Ecology and Environmental Management [CIEEM], 2017), and using the UK Habitat classification (UKHab) version 2.0 (UKHab Ltd 2023). A habitat map (Figure 1637/5/2) is given in Appendix I to aid the description.

The survey was undertaken by Jacqui Green BSc(Hons), MSc, CEcol, FCIEEM who has forty years of survey experience. This survey was conducted on 05 March 2024. A follow-up survey was conducted on 08 June 2025 to confirm habitat condition assessments for the BNG calculation.

Survey Limitations

Access to the Site was provided. Adjacent land within the same farm holding also was accessed, including the dwelling garden and pond. Private housing was present on the opposite side (north) of Raveley Road so this was not examined in detail. Habitat surveys are best conducted between March and September. Therefore, seasonality is not considered to be a limitation for the habitat survey, but a repeat was conducted in June for the benefit of improved Biodiversity Net Gain condition assessment.

2.3 Scoping for Protected & Biodiversity Species

Information from the habitat survey was used to scope (look for indicative habitats, niches or other signs) for protected or biodiversity habitats and species, which may require more detailed survey. This included a scoping for bats in the form of a Preliminary Bar Roost Assessment. Adjacent land was included in this scoping to assess if any protected species might be present on land nearby and which might be indirectly affected or which could use the Site transiently. Maps and aerial photographs were also used to identify features which might be hidden by vegetation or fencing.

The Site was also searched for evidence of invasive plant and animal species listed on Schedule 9 of the Wildlife and Countryside Act.

2.4 Preliminary Bat Roost Assessment (PBRA)

2.4.1 PBRA Date and Surveyor Details

The survey was conducted on 05 March 2024 by Jacqui Green BSc(Hons), MSc, CEcol, FCIEEM, an experienced PBRA surveyor. Where appropriate, photographs were sent to a more experienced and licenced bat surveyor for confirmation of findings.

2.4.2 Methodology

The buildings and trees within the Site and in the vicinity of the proposed works, were examined in accordance with the BCT Good Practice Guidelines (Collins 2023). This survey included trees within a planted stand but which were mostly outside the Site red line. The survey searched for evidence of bat utilisation and roost suitability, with the findings categorised as per Table 2.1a (structures) and Table 2.1b (trees). The survey methodology for trees comprised a Ground Level Tree Assessment (GLTA) using binoculars and high-intensity focussed lighting to inspect the depth of any visible feature.

Table 2.1a: Assessment of Bat Roosting Potential in Buildings (adapted Collins, 2023).

Suitability	Assessment of Features Present That Potentially Support Roosting Bats
None	An absence of suitable roost features.
Negligible	Negligible habitat features - unlikely to be used by roosting bats.
Low	The few potential roosting sites are likely to be used by a low number of transient bats.
Moderate	Potential roosting sites, but with features unlikely to support maternity or hibernation.
High	Roosting sites of potential higher conservation value.

Table 2.1b: Assessment of Bat Roosting Potential in Trees (adapted Collins, 2023).

Suitability	Assessment of Features Present That Potentially Support Roosting Bats
None	Either there is no PRF, or there is highly unlikely to be any.
FAR	Further assessment is required to establish if PRFs are present.
PRF	A tree with at least one potential roost feature (PRF) is present.

Bat Foraging and Commuting: An assessment of habitats for suitability to support bat foraging and commuting activity was undertaken with reference to the BCT Guidelines (summarised in Table 2.2).

Table 2.2: Habitat Suitability to Support Bat Activity (Commuting and Foraging) (adapted Collins, 2023).

Suitability	Commuting and Foraging Habitats
None	There are no habitat features for commuting or foraging bats.
Negligible	There are no obvious habitat features for commuting or foraging bats; however, a small element of uncertainty remains.
Low	Isolated or poorly connected habitat that could potentially support small numbers of foraging and commuting bats.
Moderate	Continuous habitats connected to the wider countryside.
High	Continuous, high-quality habitat well connected to the broader landscape. The Site is close to and connected to known roosts.

2.4.3 Survey Limitations

There were no significant limitations experienced during the surveys and no departure from standard survey guidelines.

2.5 Amphibian Survey

2.5.1 Habitat Suitability Index

The Habitat Suitability Index (HSI) is a scoring system developed as a means of evaluating habitat quality and quantity for, in this case, Great Crested Newts. It is a numerical index between 0 and 1, where 0 indicates unsuitable habitat, and 1 represents optimal habitat. The HSI for the Great Crested Newt incorporates ten suitability indices, all of which are factors thought to affect Great Crested Newts. This methodology/index has been amended by the Herpetological Conservation Trust's National Amphibian and Reptile Recording Scheme (NARRS) which is used in this assessment.

The scoring system used to calculate the HSI for water bodies present on site is summarised below:

SI 1 - Location A (optimal) 1 B (marginal) 0.5 C (unsuitable) 0.01

SI 2 Pond area Measure pond surface area (m^2) and round to nearest 50 m^2

SI 3 Pond drying

Never	1.0	Never dries
Rarely	0.9	Dries no more than two years in ten or only in drought
Sometimes	0.5	Dries between three years in ten to most years
Annually	0.1	Dries annually

SI 4 Water quality

Good	1.0	Abundant and diverse invertebrate community.
Moderate	0.67	Moderate invertebrate diversity
Poor	0.33	Low invertebrate diversity, few submerged plants
Bad	0.01	Clearly polluted, only pollution-tolerant invertebrates, no submerged plants.

SI 5 Shade Estimate percentage perimeter shaded to a least 1m from shore. Value automatically calculated in NARRS metric).

SI 6 Water fowl

Absent	1.0	No evidence of water fowl (although moorhen may be present)
Minor	0.67	Waterfowl present, but little sign of impacts

Major	0.01	Severe impact of waterfowl

SI 7 Fish

Absent	1.0	No records of fish stocking and no fish revealed during survey.
Possible	0.67	No evidence of fish, but local conditions suggest that they may be present.
Minor	0.33	Small numbers of crucian carp, goldfish or stickleback known to be present.
Major	0.01	Dense populations of fish known to be present.

SI 8 Pond density

Number of ponds within 1 km of survey pond, not separated by major barriers, divided by 3.14.

SI 9 Terrestrial habitat

Good	1.0
Moderate	0.67
Poor	0.33
None	0.01

SI 10 Macrophytes

Estimate the percentage of the pond surface area occupied by macrophyte cover (between May and the end of September).

The score obtained using the above criteria is used to calculate the suitability of the pond for Great Crested Newt using the following scale:

HSI Score

<0.5	poor
0.5 – 0.59	below average
0.6 – 0.69	average
0.7 – 0.79	good
>0.8	excellent

The HSI was undertaken on 05 March 2024. The only pond within 250m lies within the farmhouse garden and is shown on Figure 1637/5/2 in Appendix I.

2.5.2 eDNA Test

A methodology for testing for environmental DNA (eDNA) left by Great Crested Newts in ponds has been developed (Biggs, Ewald, Valentini, Gaboriaud, Griffiths, Foster, Wilkinson, Arnett, Williams and Dunn 2014). Water samples are collected between mid-April and mid-June in a controlled manner , which are then tested in laboratory conditions. The test is over 95% reliable. If a negative result is obtained than no further action is required. But if a positive result is obtained then a full survey may be required or an appropriate licence (eg a DLL) obtained, in order to derogate any potential offences.

Sampling of the pond was undertaken on 24 June 2024.

2.5.3 Survey Limitations

The HSI was undertaken in March, a time when the abundance of emergent vegetation can be underestimated. The surveyor used their experience of many years of pond surveying to adjust this figure upwards. The pond had had some management work undertaken, principally to the western end which had been shortened to reduce the area and therefore the volume of rainfall needed to keep water within it. This would not affect the HSI.

eDNA - The results were returned from the laboratory with no evidence of contamination or deterioration. The water samples were not inhibited and there were no limitations to the eDNA.

2.6 Badger Survey

A search for signs of Badger activity in the area was conducted, a separate report has been produced.

2.7 Nesting Birds

During the bat survey of buildings and trees a search for evidence of use by owls and other birds was included.

3 EVALUATION CRITERIA

3.1 Baseline Ecological Conditions

The ecological baseline was established through a desk study and site survey as outlined in chapter 2. The results were evaluated against a hierarchy of protection ranging from the highest level (internationally protected) to no statutory protection but which receive consideration under planning legislation. These factors have been assessed against ecological evaluation criteria developed by the Chartered Institute of Ecology and Environmental Management.

3.2 Legislation

3.2.1 European Protected Species

European Protected Species are protected under the EC Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (the Habitats and Species Directive). This legislation is enacted under the Conservation of Habitats & Species Regulations 2017 (the 2017 Regulations). Works which involve impacts on EPS are likely to require a Natural England licence.

3.2.2 Wildlife & Countryside Act Protected Species (Water Voles, Barn Owls, reptiles and others)

A number of species receive protection at a national level, usually against injury and killing, but may also include destruction of a resting place, collection and sale (the latter may also apply to selected named plants). This includes Barn Owls and reptiles.

3.2.3 Other Species Legislation

Certain species are protected under other legislation eg the Protection of Badgers Act 1992 gives special protection against harm to badgers or their setts. This is elaborated on in Appendix I.

3.2.4 Biodiversity Species and Habitats

A number of species and habitats which do not merit national protection are nevertheless threatened or endangered at a more localised scale, usually at a county level, or have been discovered to have undergone a rapid decline. These are listed on the UK Species/Habitats of Principal Importance (S41) list (see under '*The England Biodiversity List'* in section 2.3), or county (Local) Biodiversity Action Plans (BAPs) and would be considered to be part of the National Planning Policy Framework lower tier.

Further lists are provided for eg Birds of Conservation Concern BoCC (Red Lists) and species of conservation concern eg Red Data lists. There may also be local or county lists.

3.2.5 Nesting Birds

All nesting birds are protected under Section 1(1)(b) and (c) of the Wildlife and Countryside Act (1981) (*ibid*). It is an offence to:

> *... intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; or take or destroy an egg of any wild bird.*

As a consequence no scrub or tree clearance or management should be undertaken during the nesting season, unless works to make the habitats unsuitable are first undertaken, or a detailed examination before clearance starts declares the area free. The nesting season is generally taken to be between mid-March and July, but warm seasons may extend this period to between February and September.

3.3 Obligations Under Planning Legislation

3.3.1 National Planning Policies

The National Planning Policy Framework (NPPF) (MHLCH 2024) sets out the Government's planning policies for England and how these are expected to be applied. The NPPF says that:

Paragraph 193 says:

'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, 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 improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.'*

3.3.2 Species/Habitats of Principal Importance and Biodiversity

To aid assessment and evaluation of impacts on biodiversity, a list of Species and Habitats of Principal Importance (SPI & HPI) has been produced to meet the requirements of Section 41 of the Natural Environment and Rural Communities Act (2006). This list of species of flora, fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity will be used to guide decision-makers in implementing their duty to '*further the biodiversity objective*', under section 40 of the Natural Environment and Rural Communities Act 2006.

The Natural Environment and Rural Communities Act (OPSI 2006) (section 40(1)) states that:

> '*A Public Authority which has any functions exercisable in relation to England must from time to time consider what action the authority can properly take, consistently with the proper exercise of its functions, to further the general biodiversity objective*'.

3.4 Ecological Evaluation

In accordance with the CIEEM guidelines, these criteria follow the levels of protection as described above (e.g. descending order of importance from European/international protection, national importance and non-statutory biodiversity). It differs from the approach used for other environmental disciplines. Therefore, in order to allow the ecological impact assessment to follow the scales used elsewhere, a further step has been taken to align the output of this assessment with other disciplines as shown in column two (value) of Table 3.1 below.

Table 3.1 Ecological Valuation Levels

Level of Value	Value	Comment
International	Very High	Sites, habitats or species protected under international legislation e.g. Habitats and Species Directive.
National	Very High/ High	Sites, habitats or species protected under national legislation e.g. Wildlife & Countryside Act 1981 and amendments, plus areas supporting significant areas of Section 41 Species or Habitats of Principal Importance etc.
Regional	Medium	Sites, habitats or species which may have regional importance, but which are not protected under legislation (although Local Plans may specifically identify them).
County	Medium	Sites, habitats or species meeting the criteria for County, Metropolitan or Unitary Authority area designation (e.g. Local/ County Wildlife Site, Key Site). This category includes designated Local Nature Reserves, which have statutory protection.
District/ Borough	Low	Undesignated sites or features which enhance or enrich the local area (Borough, District etc).
Local or Parish	Low	Undesignated sites or features, which enhance or enrich the wildlife resource at a Parish or neighbourhood level.
Zone of Influence	Very Low	Includes nil or low ecological value but which form a function within the site or immediate surroundings.

4 RESULTS

4.1 Desk Study

4.1.1 Sites

There are two statutorily designated sites within 2 kms but these refer to the same place - Upwood Meadows National Nature reserve (NNR) and Site of Special Scientific Interest (SSSI).

Site Name	Grid Ref	Reasons for Designation
Upwood Meadows	TL251826	The site contains an agriculturally unimproved meadow which is a fine example of old grassland on clay, a vegetation type which is now scarce throughout the British Isles. Notably, there is a large population of green-winged orchid *Orchis morio*.

The search area included five (non-statutory) Local Wildlife Sites (LoWS), called County Wildlife Sites in Cambridgeshire.

Site Name	Grid Ref	Reasons for Designation
Lady's Wood	TL243825	A woodland listed in the Cambridgeshire Inventory of Ancient Woodland which retains more than 25% semi-natural cover and because it is a Grade C site in the JNCC Invertebrate Site Register.
Raveley Wood	TL244818	A woodland listed in the Cambridgeshire Inventory of Ancient Woodland which retains more than 25% semi-natural cover; is a Grade C site in the JNCC Invertebrate Site Register; supports a population of a vascular plant species which is rare in the county.
Rolts Wood	TL2682	Woodland listed in the Cambridgeshire Inventory of Ancient Woodland which retains more than 25% semi-natural cover.
Rose Wood	TL2681	A woodland listed in the Cambridgeshire Inventory of Ancient Woodland which retains more than 25% semi-natural cover.
Wennington and Raveley Woods	TL2478	The site is listed in the Cambridgeshire Inventory of Ancient Woodland which retains more than 25% semi-natural cover and because it is a Grade C site in the JNCC Invertebrate Site Register.

The Site lies within Impact Risk Zones for both Upwood Meadows SSSI, NNR and Wood Walton Fen SSSI, NNR. However, the proposed project falls below the level where impacts might be expected and Natural England require to be consulted.

4.1.2 Protected Species

4.1.2.1 General

Records of protected species can be confidential for a number of reasons. To safeguard this information the list is not included in full in this report; very old records are also omitted. Only information which might be relevant to this Site is itemised below.

4.1.2.2 *European Protected Species*

Amphibians: There are six records of Great Crested Newt *Triturus cristatus*, from Upwood and Little Raveley; none are within 1km and all are very old. MAGIC holds one positive record for Great Crested Newt from Great Raveley between 2017-2019, but is over 1km away.

Bats: No significant bat records were returned. Most bat records arose from roosts or bat rescue within the village of Upwood and were towards the edges of the 2 km search radius. The closest record to the site was 1.5 km away in 2015, a single Common Pipistrelle *(Pipistrellus pipistrellus)* taken in to care. Other species involved included Leisler's bat *(Nyctalus leisleri),* Brown Long-eared *(Plecotus auritus*) and Soprano Pipistrelle *(Pipistrellus pygmaeus),* but none were material to the development.

4.1.2.3 *UK Protected Species*

Birds - Barn Owl *Tyto alba* (ten records, all from nature reserves or wildlife sites); Brambling *Fringilla montifringilla*; Fieldfare *Turdus pilaris*; Hen Harrier *Circus cyaneus;* Hobby *Falco subbuteo*; Merlin *Falco columbarius*; Peregrine Falcon *Falco peregrinus*; Redwing *Turdus iliacus*.

Mammals - Four Badger records, including one road casualty and one sett under a farm barn.

Reptiles - Common Lizard *Zootoca vivipara* and Grass Snake *Natrix natrix*, records from nature reserves.

4.1.3 Species/Habitats of Principal Importance and other Biodiversity Issues

Birds: Bullfinch *Pyrrhula pyrrhula*; Cuckoo *Cuculus canorus*; House Sparrow *Passer domesticus*; Hedge Accentor *Prunella modularis*; Lesser Spotted Woodpecker *Dendrocopos minor*; Linnet *Carduelis cannabina*; Skylark *Alauda arvensis*; Spotted Flycatcher *Muscicapa striata*; Song Thrush *Turdus philomelos*; Starling *Sturnus vulgaris*; Tree Sparrow *Passer montanus*; Turtle Dove *Streptopelia turtur*; Yellow Wagtail *Motacilla flava*; Yellowhammer *Emberiza citrinella*.

Mammals: One old record of Hedgehog *Erinaceus europaeus* and a small number of Brown Hare *Lepus europaeus* records.

Invasive Non-native Species (INNS) listed on Schedule 9 of the WCA: Mandarin Duck *Aix galericulata*; Eastern Grey Squirrel *Sciurus carolinensis;* Reeve's Muntjac *Muntiacus reevesi*.

The absence of records does not mean that a particular species or habitat is not present, but may reflect a lack of recording effort in a given location.

4.2 Habitat Survey

4.2.1 The Site

Features described below are shown on the habitat map Figure 1637/5/2 in the Appendix.

The Site includes and surrounds existing unused agricultural barns and a workshop. The majority of the Site consists of buildings and hard-standing; there are three buildings and a lean-to. A small area of species-poor agricultural grassland lies to the north and west (parts of an existing field), to the south is a tall compact, Leylandii hedge forming the southern boundary and separating the Site from the remainder of the farm on the southern side. Fronting the barns to the east was an island of evenly-spaced planted native and non-native trees over modified grassland. The boundary for the Site was not set by the time of survey, so the whole of this plantation stand was surveyed; the red line now incorporates a section of this, along the western side, which will be retained to act as mature landscaping.

Along the Raveley Road boundary was a trimmed thorn hedge of mostly Blackthorn *Prunus spinosa* and Hawthorn *Crataegus monogyna*, with some Field Maple *Acer campestre*. This hedge is within the red line, but outside the gardens of the development, and retained as mature landscaping and screen. Dominant

A resurvey of the grassland in June 2025 confirmed an agriculturally improved grassland but which had become rank. False Oat-grass *Arrhenatherum elatius* was most common but Cock's-foot *Dactylis glomerata* and Meadow Foxtail *Alopecurus pratensis* were also very common. Apart from weedy edges and the bases of buildings, where Common Nettle *Urtica dioica* was very common, forbs were notably absent. A patch of Ox-eye Daisy *Leucanthemum vulgare* suggested an attempt at wildflower seeding. Detailed searching found very occasional plants such as Cut-leaved Cranesbill *Geranium*

dissectum but little else. There were rarely more than five species in a quadrat and never more than six or with two forbs.

4.2.2 Adjacent Habitats

The Site is surrounded by Lodge Farm land except to the north, where Raveley Road lies. To the east within the farmhouse garden was a large pond which had been cleaned out in winter.

4.2.3 Other Observations

No evidence of invasive non-native species (INNS) was found.

4.3 Scoping for Protected and Biodiversity Species

The Site is dominated by buildings and yard but includes an area of modified agricultural grassland and some planted trees. The presence of barns and trees indicates the potential for bats and birds. The presence nearby of a pond suggests the potential for Great Crested Newts in the near area. The open countryside with woods nearby also indicates the potential for Badgers in the area. Other species are believed to be of lower likelihood of residence or presence and lower impact and specific surveys for these have not been undertaken.

4.4 Bat Survey

4.4.1 Preliminary Bat Roost Assessment (PBRA)

4.4.1.1 *Buildings*

Barns are labelled on Figure 1637/5/2 in the Appendix.

Barn 1 (B1) - an open fronted barn of metal construction (roof and walls). Open and breezy. No evidence of use by bats and **no potential** for them.

Barn 2 (B2) - a breeze block base with corrugated metal upper. To the exterior the gutters etc were entire and in good condition. No evidence of use by bats and **no potential** for them.

Barn 3 (B3) - a brick building with metal roof, windows to rear (west), roller shutter door at one end; some internal sub-division. Exterior less well maintained than Barn 2, with some sagging guttering but no holes or damage which could be exploited by bats. Well lit and smelling of diesel. No evidence of use by bats and **negligible potential**.

Barn 4 (B4) - a lean-to shed attached to building B3, open on two sides, metal roof. No evidence of use by bats and **no potential** for them.

4.4.1.2 *Trees*

All the trees within the Site boundary were examined from ground level. All the trees within the island of planted specimens were examined despite nearly all lying outside the Site and all to be retained.

The tall Leylandii hedge had no potential for bats.

All but one of the other trees had no potential for bats. A lime tree (*Tilia* sp) on the northern edge of the tree group (tree T25 in the arboricultural report) had a hole at approximately 3m facing east of potential for bats. As this tree is confirmed as being outside the Site boundary no further action is required with regards to survey, but mitigation for potential lighting impacts should be implemented, although the hole faces away from the proposed development.

4.5 Amphibian Survey

4.5.1 Pond Description and HSI Results

The garden pond was large with an ornamental bridge over it. It had been cleared out in winter 2023-2024, to remove choking vegetation.

The HSI score (see Table in the Appendix for details) of 0.62 is Average for Great Crested Newts. Lodge Farm lies within an Amber risk zone for this species. Given the assessment and the pond's location in an amber zone, further investigation is required.

4.5.2 Environmental DNA (eDNA) Test

The garden pond returned a positive eDNA test for Great Crested Newt. The eDNA laboratory report is appended.

4.6 Badger Survey

In accordance with accepted practice, for reasons of confidentiality, a separate Badger report has been provided to the Local Planning Authority.

4.7 Other Observations

- Barn Owl pellets were seen on the floor of Barn 1 but were well in excess of a year old. No evidence of a nest or roost was found.
- Nesting birds: The Site offered little nesting habitat except for the boundary trees and Leylandii hedge. Barn 1, being open had also been used by birds for nesting - a corvid nest and possible Blackbird nest were recorded, both very old.
- Habitats were generally not suitable for Hedgehogs but they may be present in the wider landscape.
- Reptiles - No suitable habitat.
- No evidence of invasive non-native species (INNS) was found.

Other species - No other Section 41 Priority or rare species are expected to be impacted by the proposed development.

5 DISCUSSION

5.1 Discussion

The Site is typical of a farm "yard" with agricultural barns surrounded by hard-standing and agriculturally improved grassland. A small area of tree planting over modified grassland is included in the Site boundary to ensure continued screening for the development from the farm access; the broad-leaved trees will remain untouched.

Great Crested Newts are present in the near vicinity and although the majority of the Site is not suitable for them, they may use the grassland and tree line for foraging and dispersal.

The project is low risk for bats and standard lighting mitigation is considered to be sufficient.

Badgers are likely to forage in the wider area.

A very old Barn Owl perch is not protected, unlike nests, and therefore no mitigation for its loss is

required.

5.2 Evaluation

Table 5.1 Ecological Valuation Levels

Level of Value	Value	Value Prior to Assessment	Revised Value
International	Very High	Great Crested Newts present in pond nearby	
National	Very High/ High	Very old evidence of Barn Owl having used a barn for perching.	
Regional	Medium	None	
County	Medium	None	
District/ Borough	Low	None	
Local or Parish	Low	Badger present in wider countryside.	Great Crested Newt population in an area where they are common and widely distributed.
Zone of Influence	Very Low	None.	Barn Owl in area. Badgers in area.

Note: Although Badgers are protected under national legislation this is for welfare reasons. Ecologically they are valued at Local or Site level only.

6 RECOMMENDATIONS

6.1 Further Surveys

The surveys undertaken for Great Crested Newts, bats and Badgers are considered sufficient for the purposes of designing appropriate levels of mitigation and enhancement and for submission of a planning application. Bats are highly mobile, as are Badgers which can make new holes or abandon ones regularly, so prior to works commencing update surveys should be conducted.

6.2 Mitigation

6.2.1 Great Crested Newts

A pond with Great Crested Newts lies less than 50m from the Site boundary. Although the garden surrounding the pond has better habitat for newts, the presence of animals within the Application Site boundary cannot be eliminated. It is recommended that a District Level Licence be obtained to derogate any potential offences of harming a Great Crested Newt during construction.

6.2.2 Bats

Although the buildings and trees on Site were found to have nil or negligible potential for bat roosts. Care should always be taken when undertaking works to such structures. If a bat is found work should stop immediately and an appropriately qualified ecologist should be contacted for assistance and advice.

Lighting design to reduce potential impacts on nocturnal wildlife should be implemented.

6.2.3 Nesting Birds

Works on habitats typically utilised by breeding birds should avoid the bird breeding season (March-July inclusive). Removal should be proceeded by careful checks for wildlife such as nesting birds, amphibians and Hedgehogs. If vegetation removal or building demolition, has to occur during the nesting season, prior observation and incremental removal will allow avoidance of harm. However, if actively nesting birds are present (in buildings or vegetation), work must be suspended until after the young have fledged (this applies to all species of bird without exception). If in doubt, the advice of an ecologist should be sought.

6.2.4 Construction Phase Operations

To avoid creating refugia that may be utilised by Hedgehogs and amphibians, materials should be carefully stored on-site on raised pallets and away from the boundary habitats. Piles of materials that could act as refuges for wildlife should be removed as soon as possible. If left any time, they should be checked for the presence of wildlife before moving.

Security and work floodlighting should only be used where necessary to avoid any potential detrimental impacts during construction on foraging and commuting bats. These lights should not continually illuminate boundary vegetation during hours of darkness. The principles outlined below and set out in the Institute of Lighting Professional's Guidance Note should also be applied to construction phase lighting.

6.2.5 Illumination and Nocturnal Wildlife

To avoid a detrimental impact on bats and other nocturnal wildlife, there should be limited increased in night-time illumination. Lighting should be restricted to the lowest level of illumination required for safety and security and only used where needed. The following measures should therefore be implemented within the lighting scheme:

- New column-mounted luminaires, lighting bollards and wall-mounted luminaires should be selected, sited and angled such that they do not spill unnecessary light on to areas where illumination is not required, and such that there is no significant increased light trespass on to existing nocturnally dark habitats where bats forage and commute;
- Ensure new LED luminaires have dimming capability, a warm white spectrum (ideally <2700, but below 3500 Kelvin) with peak wavelengths higher than 550 nm and with no UV output;
- Where security lamps are used these should use a trigger to illuminate them (e.g. passive infra-red detector) and switch off after a short period (ideally 1 minute), rather than remaining on all night and as a rule lights should be switched off when not required;

Further guidance is available in Bats and Artificial Lighting at Night (ILP 2023).

6.3 Enhancement Opportunities

6.3.1 Bats

It is recommended that bat boxes be integrated into the development. Bat boxes should be sited so as to avoid bedroom walls, doors and windows, paths, patios, parking areas and any source of constant or intense light. As it has not been possible to find a suitable location for Unit 3, boxes are only proposed for dwellings 1, 2 and 4. It is recommended that one tree box be affixed to a mature tree within the adjacent plantation.

Dwelling 1 - on the east facing gable end wall, high up under the ridge.

Dwelling 2 - west facing on the car port wall, high up.

Dwelling 4 - east facing gable end wall, high up under the eaves, avoiding the window.

Wall integrated crevice boxes may be selected from those commercially available (examples: https://bit.ly/2QpWrDU) or constructed as bespoke solutions. Examples of bespoke solutions can be found in Gunnell et al. (2013). Boxes fitted within suitable eaves soffits or wall-integrated boxes immediately below eaves are suitable options.

For trees the general purpose Schwegler 1FF or 2FN is suitable.

6.3.2 Hedgehogs

As Hedgehogs are likely to be present in the area, and rely upon habitat connectivity, the development should allow inter-connectivity between private gardens through the provision of 15 x 13 cm holes at ground level and marked by 'Eco Hedgehog Hole Fence Plates' (or similar) to ensure residents understand the purpose of the hole. If post and rail fencing is used, this is not necessary.

6.3.3 Invertebrates

The development will include new planting to encourage pollinating insects, as well as habitats in the form of 'bug hotels' and nest boxes. The proposals should include at least two durable insect boxes (e.g. https://bit.ly/2QUbOVp). These should be fixed to walls or fences in a sunny location.

7 BIODIVERSITY NET GAIN

The proposed development includes retained mature habitats at the entrance and two areas of enhanced neutral grassland to compensate for the modified grassland lost. New tree planting is included. The proposals provide a net gain of 18.64% in area habitats and 168.68% in hedgerow units.

8 CONCLUSIONS

The Site is a farm yard complex of barns, workshop and hard-standing with some grassland. Whilst Great Crested Newts have been demonstrated to be in the near area, the Site had little other wildlife interest. Subject to mitigation for newts such as a District Level Licence, minimal impacts on wildlife are forecast. In addition a good Biodiversity Net Gain can be achieved.

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APPENDIX

Photographs

Figure 1637/5/2 Habitat Map

Figure 1637/5/3 Proposed Map

Figure 1637/5/4 Bat Box Locations - Elevations

Great Crested Newt Habitat Suitability Indices

Great Crested Newt eDNA Laboratory Results

PHOTOGRAPHS



Photograph 1 - Interior of Barn 1. Attachment to Barn 2 on left.



Photograph 2 - Interior of Barn B2.



Photograph 3 - Rear of Barn 2, with Barn 1 to left.



Photograph 4 - exterior of part of Barn.



Photograph 5 - Interior of Barn 3



Photograph 6 - Barn 4.



Photograph 7 - Lime tree T25 outside the site.



Photograph 8 - Detail of Potential Roost Feature in tree T25.



Photograph 9 - Stand of trees on east side of the Site. Barn B3 visible to the left.



Photograph 10 - Garden pond.

	
Photograph 11 - General view of species-poor grassy sward.	**Photograph 12** - Detail quadrat view,


g4
g4
B1
B2
B3
B4
g4
H2
Pond
garden
Lodge Farm Farmhouse
Line of proposed new farm access, consented not currently in place.
0 10 20m approx
© Crown Copyright. Licence Number 100055927
u1b developed land, sealed surface
u1b5 buildings
u1c artificial unvegetated unsealed surface
g4 modified grassland
Trees over grassland
h2a6 - other native hedgerow
h2b - non-native & ornamental hedgerow
u1e - built linear feature
Project:
LODGE FARM BARNS, GREAT RAVELEY
Client:
Lodge Farm Ptnship
Scale: nts
Drawn by: JG
Date: 24/09/2024
Rev: B
Drawing:
1637/5/2
HABITAT MAP
Green Environmental Consultants
22 Heath Road, Swaffham Bulbeck, Cambridge, CB25 0LS
Tel: 01223 811190
email: jgreen@greenecology.co.uk



Integrated bat box eg Schwegler 1FR Bat Tube; Habibat Bat Box; Vivara Pro Build-in Woodstone Bat Tube.

Bat boxes for trees eg 2FN Schwegler Bat Box; Improved Crevice Bat Box (Double Crevice); Vivara Pro WoodStone Bat Box

Vegetation boundaries (difference between grassland under trees and other). The periphery will be sown as ONG but may reduce in composition to become MG. These areas will merge and not be a distinct line.

Garden boundaries. Land outside this, notably hedged exterior boundaries, will be managed as part of the farm estate.

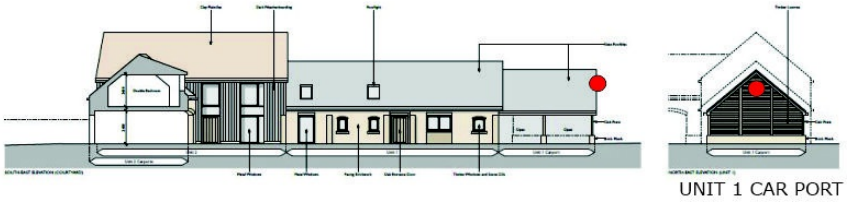
Project: LODGE FARM BARNS, GREAT RAVELEY

Client: Lodge Farm Ptnship

Scale: nts
Drawn by: JG
Date: 07/01/2025
Rev:I 17/04/2025

Drawing: **1637/5/3 HABITAT MAP PROPOSED**

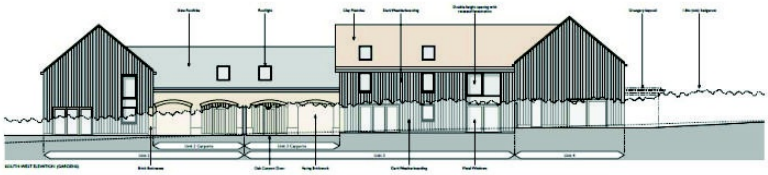
Green Environmental Consultants
22 Heath Road, Swaffham Bulbeck, Cambridge, CB25 0LS
Tel: 01223 811190
email: jgreen@greenecology.co.uk



UNIT 1 CAR PORT



UNIT 2 CAR PORTS





UNIT 4 CAR PORT
AVOIDING WINDOW





● Integrated bat box eg Schwegler 1FR Bat Tube;
Habibat Bat Box; Vivara Pro Build-in Woodstone Bat Tube.

For units 1, 2 and 4.

Project: LODGE FARM BARNS, GREAT RAVELEY	Drawing: **1637/5/4 ELEVATIONS - BOXES**
Client: Lodge Farm Ptnship	
Scale: nts Drawn by: JG Date: 07/01/2025 Rev:I	Green Environmental Consultants 22 Heath Road, Swaffham Bulbeck, Cambridge, CB25 0LS Tel: 01223 811190 email: jgreen@greenecology.co.uk

Great Crested Newt Survey

1. Pond Details

Project	**Lodge Farm, Great Raveley**
Project number/reference	
Site	

Pond number/reference	Garden pond				
OS Grid reference					
Location details					
Access instructions					

Landowner name					
Address/email					
Telephone					

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	1.00
SI2.	Surface area	**rectangle/ellipse/irregular**	ellipse	
		length (m)	25	
		width (m)	9	
		OR estimate (m^2) if irregular		
		area (m^2) =	*176.625*	0.35
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	frequently	0.10
SI4.	Water quality	**good/moderate/poor/bad**	moderate	0.67
SI5.	Shade	% of margin shaded 1m from bank	10	1.00
SI6.	Waterfowl	**absent/minor/major**	absent	1.00
SI7.	Fish population	**absent/possible/minor/major**	absent	1.00
SI8.	Pond density	number of ponds within 1km	2	0.84
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	moderate	0.67
SI10.	Macrophyte cover	%	30	0.61

***Note**: Guidance in undertaking the HSI is available at www.narrs.org.uk.* **HSI score =** **0.62**

HSI calculation formulae adapted from Rob Oldham **Pond suitability =** **average**

Environmental eDNA Test for Great Crested Newt Results

Client: Jacqui Green,
Green Environmental

ADAS
Spring Lodge
172 Chester Road
Helsby
WA6 0AR

Tel: 01159 229249
Email: Helen.Rees@adas.co.uk

www.adas.uk

Sample ID: ADAS-2844	Condition on Receipt: Low Sediment	Volume: Passed
Client Identifier: Lodge Farm	Description: pond water samples in preservative	
Date of Receipt: 27/06/2024	Material Tested: eDNA from pond water samples	

Determinant	Result	Method	Date of Analysis
Inhibition Control†	2 of 2	Real Time PCR	04/07/2024
Degradation Control§	Within Limits	Real Time PCR	04/07/2024
Great Crested Newt*	12 of 12 (GCN positive)	Real Time PCR	04/07/2024
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10^{-4} ng/µL)#	4 of 4	Real Time PCR	As above for GCN
Report Prepared by:	Dr Helen Rees	Report Issued by:	Dr Ben Maddison
Signed:		Signed:	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	04/07/2024	Date of issue:	04/07/2024

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.*

† Recorded as the number of positive replicate reactions at expected C_t value. If the expected C_t value is not achieved, the sample is considered inhibited and is diluted as per the technical advice note prior to amplification with great crested newt primer and probes.

§ No degradation is expected within time frame of kit preparation, sample collection and analysis.

#Additional positive controls (10^{-1}, 10^{-2}, 10^{-3} ng/µL) are also routinely run, results not shown here.

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