



**Land off Rectory Lane, Fringford,
Oxfordshire OX27 8DD**

Preliminary Ecological Appraisal

February 2021

on behalf of Mr A. Bradbury

Disclaimer


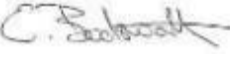
This report is issued to the client for their sole use and for the intended purpose as stated in the agreement between the client and Windrush Ecology Ltd. This report may not be relied upon by any other party without the express written consent of Windrush Ecology Ltd.

Windrush Ecology has exercised due care in preparing this report. It has not independently verified information provided by others, and no warranty is made in relation to the content of this report and Windrush Ecology Ltd assumes no liability for any loss resulting from errors, omissions or misinterpretation made by others.

Any recommendation, opinion or finding stated in this report is based on the circumstances and facts as they existed at the time that Windrush Ecology Ltd performed the work. The content of this report has been provided in accordance with the provisions of the CIEEM Code of Conduct.

Nothing in this report constitutes legal opinion.

Client	Mr A. Bradbury
Job name	Land off Rectory Lane, Fringford, Oxfordshire OX27 8DD
Survey date	3 rd February 2021
Report date	25 th February 2021
Report title	Preliminary Ecological Appraisal
Reference	W4105_rep_Land off Rectory Lane_25-02-21

	Signed	Name	Position	Date
Prepared by		Robbie Birkett <i>MSci</i>	Senior Ecologist	08/02/21
Reviewed by		Edward Bodsworth <i>MA (Cantab)</i> <i>PhD MCIEEM</i>	Director	25/02/21

Report Contents

1	Introduction	1
1.1	Site Description & Context.....	1
1.2	Aims of Study.....	1
1.3	Proposals	1
2	Methodology.....	1
2.1	Desk Study.....	1
2.2	Field Surveys	2
2.2.1	Extended Phase 1 Habitat Survey	2
2.2.2	Pond Assessment for Great Crested Newts	2
2.2.3	Tree Assessment for Roosting Bats.....	3
2.3	Limitations on Survey Data.....	3
3	Results & Evaluation	4
3.1	Ecological Context.....	4
3.1.1	Sites of Conservation Importance	4
3.1.2	Species Records.....	4
3.2	Habitats.....	4
3.2.1	Tall Ruderal Vegetation	5
3.2.2	Trees	5
3.2.3	Hedge.....	5
3.2.4	Ponds (off-site).....	5
3.3	Species	6
3.3.1	Plants	6
3.3.2	Amphibians	6
3.3.3	Reptiles	6
3.3.4	Birds	7
3.3.5	Bats	7
3.3.6	Badgers.....	7
3.3.7	Hedgehogs.....	7
3.3.8	Invasive Species	7
3.3.9	Other Species	7
4	Discussion.....	8
4.1	Relevant Legislation & Policy Guidance.....	8
4.1.1	Great Crested Newts	8
4.1.2	Nesting Birds.....	8
4.1.3	The Natural Environment and Rural Communities Act 2006.....	9
4.1.4	National Planning Policy Framework (NPPF)	9
4.1.5	Adopted Cherwell Local Plan 2011-2031	11
4.2	Impact Assessment.....	11
4.2.1	Sites of Nature Conservation Importance	11
4.2.2	Habitats	11
4.2.3	Species	12
5	Recommendations.....	12
5.1	Further Surveys	12
5.2	Biodiversity Net Gain	12
5.3	Habitats	13
5.4	Species	13
5.4.1	Amphibians	13
5.4.2	Birds	14
5.4.3	Bats	14

5.4.4 Hedgehogs.....	15
6 References.....	15
7 Appendix 1. Photographs	17
8 Appendix 2. Location Plans.....	18
9 Appendix 3. Phase 1 Habitat Plan.....	19
10 Appendix 4. Species for 'Wildlife-friendly' Gardens	20
11 Appendix 5. TVERC Data Search Report	22

1 Introduction

1.1 Site Description & Context

The land off Rectory Lane, referred to as the 'site' for the purpose of this report, is a parcel of land located to the eastern side of Rectory Lane, to the south-west of Farriers Close, within the village of Fringford in Oxfordshire OX27 8DD. The approximate Ordnance Survey grid reference for the site is SP 603 289.

The site comprises an area of tall ruderal vegetation and scattered young scrub, enclosed by a mixed hedge. There are a number of semi-mature trees and shrubs to the north-eastern boundary of the site and a multi-stemmed tree within the south-central area of the site. Current access is via a gap in the hedge to the north-eastern boundary.

The site is located towards the centre of the village, approximately 80m to the north of The Green, and is surrounded on all sides by residential development and private gardens. Rectory Lane and Farriers Close bound the site to the north-west and north-east. A pond, within the garden of a nearby property, is located approximately 50m to the south-west of the site boundary.

1.2 Aims of Study

The aims of this study are to describe and evaluate the habitats present within the site and to assess the potential for the site to support protected and notable species, establishing the baseline ecological conditions. The report discusses the likely impacts of the proposed development on the ecology of the site, on valued habitats and on protected/notable species. The study also makes recommendations for appropriate mitigation measures and habitat enhancement with regard to habitats and species. The need for further ecological survey work is discussed in light of the impact assessment.

The consultation response from Dr Watkins (Ecology Officer) sent on 17th September 2020 was also taken into account when undertaking this study. In particular, nearby ponds have been assessed for their potential suitability for great crested newts, and mitigation measures are proposed for amphibians. In addition, the study discussed measures to deliver biodiversity net gain within the site, including integrated bird and bat features.

1.3 Proposals

There is a proposal to erect one detached dwelling within the site, with new access created off Rectory Lane. The existing access will be planted with a hedge to join sections of existing hedge. One tree will be removed to facilitate the proposals, with all other trees being retained.

2 Methodology

2.1 Desk Study

The Thames Valley Environmental Records Centre (TVERC) was contacted in February 2021 to collate records that it holds for protected/notable species and non-statutory sites of nature conservation importance within a 1km radius of the site.

The Multi-Agency Geographic Information for the Countryside (www.magic.gov.uk) website was searched for information regarding internationally protected sites (e.g. Special Areas of Conservation) within 5km of the site and statutory sites of nature conservation importance (e.g. Sites of Special Scientific Interest) within a 1km radius of the site. Other Internet resources interrogated as part of the desk study include:

- Bing Maps - www.bing.com/maps
- Google Earth - www.earth.google.co.uk
- Google maps - www.google.co.uk/maps

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 was also consulted to gather information pertaining to priority habitats and species for conservation action at the national and local level.

Aerial photography interpretation is used to place the site into an ecological context and to provide information on the nature of the habitats beyond the site boundary. The information gathered is used to provide a baseline to the habitat assessment.

2.2 Field Surveys

2.2.1 Extended Phase 1 Habitat Survey

An extended Phase 1 Habitat Survey was undertaken on 3rd February 2021 by Edward Bodsworth MA (Cantab) PhD MCIEEM. A walkover of the site was conducted, and a description of the habitats present was prepared using standard Phase 1 Habitat Survey methodology (JNCC, 2010).

Target notes were also prepared on features of particular ecological interest and an assessment was made of the site's potential to support protected and notable species (such as species listed under Section 41 of the NERC Act 2006).

2.2.2 Pond Assessment for Great Crested Newts

A pond (Pond 1) located approximately 50m to the south-west of the site (within a nearby garden) was assessed for its suitability to support great crested newts *Triturus cristatus* according to the criteria and method developed by Oldham *et al.* 2000. A smaller pond (Pond 2) located to the eastern side of The Green was also included in this assessment.

This was undertaken during the Phase 1 Habitat Survey on 3rd February 2021. The work by Oldham, and others, hypothesises that the likely presence of breeding great crested newts can be predicted by a number of habitat features such as pond size, location, shading, the presence of fish, wildfowl and aquatic plants.

These data are used to calculate a Habitat Suitability Index (HSI); represented as a number from 0 to 1. The higher the number, the more likely the pond is to be occupied by breeding great crested newts. Following Oldham's study, further work by Dr Lee Brady has resulted in a categorical scale for using HSI scores to define pond suitability for great crested newts. This scale is shown in Table 1.

Table 1. HSI categories for pond suitability.

HSI	Pond suitability
<0.5	Poor
0.5 - 0.59	Below average
0.6 - 0.69	Average
0.7 - 0.79	Good
> 0.8	Excellent

The studies by Oldham and Brady indicate that great crested newts tend to avoid ponds with low HSI scores. Ponds with relatively low HSI scores (poor to below average) typically only support great crested newt when they are located close to another occupied pond. Low scoring ponds are therefore only likely to support great crested newts in areas of high pond density. Ponds with relatively high HSI scores (good - excellent) frequently support great crested newts and survey work undertaken in England indicates that great crested newts are present in more than 90% of 'excellent' ponds.

It should be noted that the Pond 1 is within a private garden, and so the assessment was undertaken from a nearby public right of way.

2.2.3 Tree Assessment for Roosting Bats

Trees within the site were surveyed from ground level, using binoculars where necessary, to look for potential bat roost features and to assess the potential of the trees to offer shelter to roosting bats. The bat survey was undertaken according to best practice guidelines published by the Bat Conservation Trust (Collins, 2016).

The assessment was undertaken on 3rd February 2021 by Edward Bodsworth MA (Cantab) PhD MCIEEM. Dr Bodsworth holds a licence from Natural England to survey for bats within all counties of England (Natural England Level 3 and Level 4 Licence nos. 2020-45379-CLS-CLS & 2020-45382-CLS-CLS). The following criteria are used for as guidelines for assessing the potential suitability of trees for bats (Collins, 2016):

Table 1. Criteria for the assessment of trees and buildings for roosting bats (Collins 2016).

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features likely to be used by roosting bats.
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure or tree 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 status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after the presence is confirmed).
High	A structure or tree 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 habitats.

2.3 Limitations on Survey Data

The survey was undertaken in February, at a time of year when some flora and fauna may not be evident. Given the nature of habitats on site, it is considered that the habitats were categorised to their appropriate Phase 1 habitat types, although some grassland species may not be observed due to the time of year.

There were no access constraints to the site. As previously mentioned, Pond 1 was assessed from a nearby public right of way as it is within a private garden.

3 Results & Evaluation

3.1 Ecological Context

3.1.1 Sites of Conservation Importance

3.1.1.1 Statutory Sites

There are no statutory sites of nature conservation importance within 1km of the site, and there are no sites of international importance to nature conservation, such as Special Areas of Conservation, within a 5km radius.

3.1.1.2 Non-statutory Sites

There are no non-statutory sites of nature conservation importance within the site, or adjacent to the site boundary. There are three Local Wildlife Sites (LWS) within a 1km radius of the site, these are summarised below.

Pool Spinney LWS

Pool Spinney LWS is located approximately 800m to the north-east of the site. Pool Spinney lies in a small wet valley near Fringford. It is an area of wet willow dominated woodland. On the ground there are a variety of wetland plants including common reed, meadowsweet and wild angelica. There are also some more open areas of reed dominated vegetation. In the drier areas near the edge hazel is the most abundant species.

Meadow East of Fringford LWS

The Meadow East of Fringford LWS is located approximately 800m east of the site. This wet meadow in a small valley near Fringford has a rich variety of grassland wildflowers which show that it escaped agricultural improvement through ploughing and reseeded or through the use of herbicides and pesticides. Wildflowers recorded here include the uncommon spineless meadow thistle, cowslip and common spotted orchid.

Hopyard Spinney LWS

Hopyard Spinney LWS is located approximately 870m to the east of the site. This wood is situated in a small valley near Fringford. It has a mixture of old broadleaved woodland, open wetland habitat and scrub. The broadleaved woodland has the typical appearance of long-established woodland with a mixture of oak, ash and field maple. The west edge has a mixed wetland habitat with common reed and meadowsweet. Wildflowers recorded here include twayblade, which is a green flowered orchid, and adder's tongue fern. The scrub area is a mixture of hawthorn and elder.

Conservation Target Areas

The site is not located within a Conservation Target Area.

3.1.2 Species Records

Species records held by TVERC are discussed below, alongside the results of the field survey. Please refer to Appendix 6 for the full report.

3.2 Habitats

Photographs of the site are presented in Appendix 1. Appendix 2 illustrates the location of the site. A Phase 1 Habitat Plan is presented in Appendix 3.

3.2.1 Tall Ruderal Vegetation

The site comprises an area of tall ruderal vegetation with some young scrub/seedlings. The vegetation is dominated by cow parsley *Anthriscus sylvestris* and stinging nettle *Urtica dioica*. Other species include ground ivy *Glechoma hederacea*, ivy *Hedera helix*, white dead nettle *Lamium album*, cleavers *Galium aparine*, ribwort plantain *Plantago lanceolata*, dock *Rumex obtusifolius*, lords-and-ladies *Arum maculatum*, cock's-foot *Dactylis glomerata* and false oat grass *Arrhenatherum elatius*. One plant of stinking iris *Iris foetidissima* was noted as well as a garden escape *Geranium* species. Young, scattered scrub of bramble *Rubus fruticosus* and sycamore *Acer pseudoplatanus* seedlings is also present.

The tall ruderal vegetation does not meet the criteria for any habitats of 'principal importance', as listed within Section 41 of the NERC Act 2006 and is considered to be of low ecological value. Species present are common and widespread, and typical of neglected land and gardens.

3.2.2 Trees

There are four trees within the site, as well as two shrubs of hawthorn. The trees are semi-mature and include one sycamore and two ash *Fraxinus excelsior* to the northern boundary and a multi-stemmed sycamore to the south-central area of the site. There is also one young cherry *Prunus* sp. tree to the south-western boundary of the site, beyond the hedge.

The trees and hawthorn shrubs appear to have self-seeded within the site, although it seems likely that the cherry tree has been planted for its ornamental value. There are no mature or veteran trees within the site and the trees and hawthorn shrubs are considered to be of ecological value within the context of the site only, and are unlikely to form a significant ecological resource within the wider, local, context. None of the trees exhibit any features that could offer shelter to roosting bats.

3.2.3 Hedge

A mixed hedge creates the boundary of much of the site, except for a gap along the north-eastern boundary. The hedge is dominated by cherry laurel *Prunus laurocerasus*, with hazel *Corylus avellana*, hawthorn *Crataegus monogyna* and field maple *Acer campestre* also present. The hedge had been recently trimmed at the time of the survey, with some trimmings within the site.

The hedge is not considered to meet the criteria for 'Hedgerow' habitats of 'principal importance', as listed within Section 41 of the NERC Act 2006; this is due to the presence of cherry laurel and the fact that the habitat does not connect to hedgerows within the wider landscape. The hedge is considered to be of ecological value within the context of the site only.

3.2.4 Ponds (off-site)

There is a pond (Pond 1) located within a nearby property, approximately 50m to the south-west of the site boundary. This pond is relatively large, with fringing scrub and lawns. A duck house is present to the centre of the pond, and the water was murky at the time of the survey, indicating the possible presence of fish and waterfowl. The Habitat Suitability Index for this pond has been calculated as 0.58 (Table 2), indicating that it is likely to be 'below average' suitability for breeding great crested newts.

A second pond (Pond 2) is located to the east side of The Green, approximately 115m south-east of the site. The Habitat Suitability Index of this pond has been calculated as 0.46 (Table 2), indicating that the pond is poor for great crested newts. The pond appears to be ephemeral and is likely to dry out annually, it is also heavily shaded by surrounding trees.

Table 2. HSI assessment of ponds.

Characteristic	Score	
	1	2
Pond		
SI₁ Location	1	1
SI₂ Pond Area	0.94	0.25
SI₃ Pond Drying	0.90	0.10
SI₄ Water Quality	0.33	0.67
SI₅ Shade	0.60	0.30
SI₆ Fowl	0.67	1
SI₇ Fish	0.33	1
SI₈ Ponds	0.84	0.84
SI₉ Terrestrial Habitat	0.33	0.33
SI₁₀ Macrophytes	0.45	0.30
Habitat Suitability Index	0.58	0.46
Suitability	Below Average	Poor

3.3 Species

3.3.1 Plants

No rare or uncommon plant species, such as field scabious *Knautia arvensis* or ragged robin *Silene flos-cuculi*, were noted during the survey. The plant species that are present are typical of neglected ground, such as neglected gardens.

3.3.2 Amphibians

The TVERC holds no records for amphibians, including the great crested newt *Triturus cristatus*, from within a 1km radius of the site. The MAGIC website holds no records of great crested newt licence returns for the village of Fringford. There is no evidence to indicate that great crested newts are present within the ponds of the village.

Pond 1 has been assessed as 'below average' with regard to its suitability for breeding great crested newts. This is primarily due to the likely presence of fish, and the presence of fowl. It is considered likely that great crested newts are absent from this pond. Pond 2 is also not considered to be suitable for breeding amphibians, as it is likely to dry out annually.

It is therefore considered likely that great crested newts are not breeding within these two ponds, and unlikely to be present within the site during the terrestrial phase of their lifecycle. The site is relatively small, and the proposals for residential development will also include the creation of a garden. The garden, and the existing hedge, are likely to continue to provide opportunities for amphibians to move through the site, if they are present within the area.

It is considered likely that great crested newts are absent from the site during the terrestrial phase of their lifecycle. It seems unlikely that the site provides a key habitat for amphibian species whilst on land.

3.3.3 Reptiles

The site is not considered to be suitable for common reptile species, such as grass snake *Natrix helvetica* and slow worm *Anguis fragilis*, and there are no records of reptiles (held by TVERC) for the 1km search radius around the site.

Whilst tall ruderal vegetation and scrub can provide cover for reptiles, the habitats of the site are not considered to be suitable, and the site is too small to support a viable population of reptiles in isolation. The surrounding habitats, comprising roads, gardens and residential properties, are also considered to be unsuitable, or poor, for reptiles.

Given the above, reptiles are considered to be absent from the site.

3.3.4 Birds

The trees and hedge offer potential nesting sites to breeding birds. The local assemblage may include species such as the song thrush *Turdus philomelos* and dunnock *Prunella modularis*, which are listed as a species of 'principal importance' under Section 41 of the NERC Act 2006 and for which there are records from the locality.

There are also records of barn owl *Tyto alba* from the area, but the site does not offer suitable nesting or foraging habitat for this species.

Similarly, the site is not considered to be suitable for ground-nesting bird species, such as skylark *Alauda arvensis* and grey partridge *Perdix perdix*, for which there are also records from the local area.

3.3.5 Bats

The Records Centre holds records for seven bat species, including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, serotine *Eptesicus serotinus*, barbastelle *Barbastella barbastellus*, Natterer's bat *Myotis nattereri* and noctule *Nyctalus noctula*.

There are no buildings or structures within the site, and none of the trees exhibit any features that roosting bats could use for shelter; there are no habitats to offer shelter to roosting bats. The site is unlikely to form a significant foraging habitat for local bat populations, and there are no strong habitat connections between the site and significant areas of bat foraging habitat.

3.3.6 Badgers

No badger setts were noted during the survey, and no other evidence of badgers was found within the site or within 30m of the site boundary. There are no records of badgers from the 1km search radius.

3.3.7 Hedgehogs

The site provides potential habitat for hedgehogs *Erinaceus europaeus*, with the hedge providing shelter and the ruderal vegetation cover and potential foraging opportunities. The TVERC holds one record of the species from the 1km search radius.

3.3.8 Invasive Species

No invasive plant species were noted within the site.

3.3.9 Other Species

No other protected/notable species were observed, and the site is unlikely to offer habitat to other rare or uncommon species.

4 Discussion

4.1 Relevant Legislation & Policy Guidance

4.1.1 *Great Crested Newts*

Great crested newts and their habitat are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and under The Conservation of Habitats and Species Regulations 2017 (as amended). Taken together, these make it an offence to:

- (a) Deliberately capture or intentionally take a great crested newt
- (b) Deliberately or intentionally kill or injure a great crested newt
- (c) To be in possession or control of any live or dead wild great crested newt or any part of, or anything derived from a wild newt
- (d) Damage or destroy a breeding site or resting place of such an animal or intentionally or recklessly damage, destroy or obstruct access to any place that a wild great crested newt uses for shelter or protection
- (e) Intentionally or recklessly disturb any wild great crested newt while it is occupying a structure or place that it uses for shelter or protection
- (f) Deliberately disturb great crested newts, in particular any disturbance which is likely
 - to impair their ability;
 - (i) to survive, breed, reproduce or to rear or nurture their young;
 - (ii) to hibernate;
 - to affect significantly the local distribution or abundance of the species to which they belong

Although the law provides strict protection to great crested newts, it also allows this protection to be set aside (derogation) under The Conservation of Habitats and Species Regulations 2017 (as amended) through the issuing of licences (referred to as European Protected Species Licences or EPSL). Where a lawful operation is required to be carried out, but which is likely to result in one of the above offences, a licence may be obtained from Natural England (the statutory body in England with responsibility for nature conservation) to allow the operation to proceed.

However, in accordance with the requirements of The Conservation of Habitats and Species Regulations 2017 (as amended), a licence can only be issued where the following requirements are satisfied:

- The proposal is necessary 'to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment';
- 'There is no satisfactory alternative';
- The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range'.

These three criteria are often referred to as the 'three tests' of the Regulations. All three must be satisfied in order for a licence to be granted.

4.1.2 *Nesting Birds*

Nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. The nesting season for most species is between March and August inclusive.

4.1.3 *The Natural Environment and Rural Communities Act 2006*

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 places a duty on the Secretary of State to publish, review and revise lists of living organisms and types of habitat in England that are of principal importance for the purpose of conserving English biodiversity.

It also requires the Secretary of State to take, and promote the taking of, steps to further the conservation of the listed organisms and habitats. This is important in the context of planning decisions as the National Planning Policy Framework affords planning policy protection to the habitats of species listed by virtue of Section 41.

There are no habitats listed within Section 41 of the NERC Act 2006 that are considered relevant to the site.

Species listed within Section 41 of the NERC Act 2006 that are relevant to the site, or considered to be potentially relevant, include:

- Bird species such as dunnock and song thrush (potential for nesting within trees and hedge)
- Hedgehog (site offers potential habitat)

4.1.4 *National Planning Policy Framework (NPPF)*

The revised National Planning Policy Framework was updated in February 2019 and sets out the government's planning policies for England and how these are expected to be applied. This revised Framework replaces the previous National Planning Policy Framework published in March 2012, and revised in July 2018.

The NPPF states that planning policies and decisions should contribute to and enhance the natural and local environment by:

- 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);
- 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;
- Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- 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
- Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

- The need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
- The cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
- Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 172), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.

To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

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

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- 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
- 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.

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

- ❖ Potential Special Protection Areas and possible Special Areas of Conservation;
- ❖ Listed or proposed Ramsar sites; and
- ❖ Sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitat's 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 habitat site.

4.1.5 *Adopted Cherwell Local Plan 2011-2031*

Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment

With regard to net gain in biodiversity, the Local Plan Policy ESD10 states the following:

'In considering proposals for development, a net gain in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources.'

Measures for achieving biodiversity net gain are presented in Section 5.2.

4.2 Impact Assessment

4.2.1 *Sites of Nature Conservation Importance*

There are no foreseeable impacts on sites of nature conservation importance. This is due to the distance of Local Wildlife Sites from the site boundary, as well as the scale and nature of the proposals.

4.2.2 *Habitats*

The proposals are likely to result in the loss of tall ruderal vegetation, and the creation of a building, hard-standing (driveway) and garden. The proposed new access will result in the loss of a section of the hedge, and this will be compensated through the planting of a new section of hedge, where there is an existing gap. One tree will be removed (a multi-stem sycamore), but all other trees are to be retained and there are likely to be no significant ecological impacts as a result of this one tree. There are no foreseeable impacts on habitats of 'principal importance'. Given this, it is unlikely that the proposals will result in a significant ecological impact in a wider context.

The loss of tall ruderal vegetation, and the creation of a building, some hard-standing and a garden, may result in the loss of overall biodiversity. However, the scale of loss is likely to be low, as the tall ruderal vegetation is dominated by common and widespread species, such as stinging nettle, bramble and cow parsley. It is considered that measures can be put in place to off-set losses in overall biodiversity and to achieve net gain through measures adopted within the new garden/landscaping, and the proposed building such as bat roosting and bird nesting features. The options for delivering biodiversity net gain are discussed in Section 5.2.

Cherry laurel is a non-native species that can become invasive. It's removal from the site is recommended.

4.2.3 Species

4.2.3.1 Amphibians

There are no foreseeable impacts on amphibians, including great crested newts. However, a precautionary approach is recommended to amphibians in general (see Section 5.4).

4.2.3.2 Birds

Without appropriate timing, clearance of trees and woody vegetation could result in the destruction of active birds' nests and the killing/injury of eggs/young.

There are no foreseeable impacts on ground-nesting bird species.

4.2.3.3 Bats

There are no foreseeable impacts on roosting bats, or structures or trees that bats could use for roosting and shelter.

External lighting associated with the proposed development could have an impact on bats by affecting their activity and behaviour, particularly if there is light spillage over adjacent areas. In that certain species of bat have been shown to be attracted to mercury vapour lamps which emit light over a very broad-spectrum including UV light to which insects are particularly sensitive.

Furthermore, insects can be attracted in large numbers to mercury lamps and so can bats of the genera *Nyctalus* and *Pipistrellus*, including noctules *N. noctula* and common pipistrelles *P. pipistrellus* (Rydell and Racey 1993). Lighting has shown to have an opposite effect on certain other species, such as the lesser horseshoe bat *Rhinolophus hipposideros*, which have been shown to avoid areas of artificial light (Stone *et al.* 2009).

4.2.3.4 Hedgehogs

Habitat loss may result in loss of shelter and foraging opportunities for hedgehogs. However, the proposals are to retain the hedge (and compensate for the proposed new access) and so shelter will remain. In addition, the garden will continue to provide potential foraging opportunities for this species.

4.2.3.5 Other Species

There are no predicted impacts on other protected/notable species of wildlife, such as rare plants, reptiles and badgers.

5 Recommendations

5.1 Further Surveys

No further surveys are currently recommended.

5.2 Biodiversity Net Gain

Given the size of the site, and the nature of the proposals in that ruderal vegetation will be lost, and a dwelling and garden created, measures will be required to provide biodiversity net gain. It is recommended that the following are implemented to achieve this:

- Removal of cherry laurel from the site, including from the boundary hedge, and the replacement with native evergreen species such as holly *Ilex aquifolium* and yew *Taxus baccata*.
- Creation of a log pile using the felled sycamore tree.
- Planting of a native tree to compensate for the loss of the sycamore.

- Installation of an integrated bat box on the south-eastern gable end of the proposed dwelling.
- Installation of an integrated bird box (such as house sparrow or swift) on the north-eastern elevation and north-western elevation.
- Enhancement of garden habitats through the planting of native species, and species that are of known value to wildlife (see Appendix 4).

Given that there are no existing opportunities for roosting bats, or nesting swifts/house sparrows, and the existing ruderal vegetation is species-poor, it is considered that the above measures can deliver a net gain in biodiversity in accordance with Policy ESD 10 of the Adopted Cherwell Local Plan.

5.3 Habitats

It is recommended that the retained trees and hedge are protected in accordance with British Standard 5837:2012, through the establishment of appropriate root protection zones.

It is recommended that a native tree is planted within the garden of the proposed dwelling, to compensate for the loss of the existing multi-stemmed sycamore. The planting of sycamore is not recommended, as it can self-seed and become a nuisance. Species that are considered appropriate are:

- Silver birch *Betula pendula*
- Rowan *Sorbus aucuparia*
- Field maple *Acer campestre*
- Hornbeam *Carpinus betulus*
- Hazel *Corylus avellana*
- Wild cherry *Prunus avium*

It is recommended that new areas of garden and landscape planting are designed, planted and managed to maximise their value to wildlife. One key element of this would be the species used within the planting, which should comprise native species (preferably of local provenance) where possible. The key will be to provide a variety of flowers and fruits throughout the year in order to provide food for insects and birds, as well as providing potential nest sites.

Appendix 4 provides a list of potentially suitable species for wildlife garden planting.

5.4 Species

5.4.1 Amphibians

The following precautionary approach is recommended. In the unlikely event that a great crested newt is encountered during the construction phase, works should stop, and advice sought from a suitably qualified and experienced ecologist.

The site owner/site manager will ensure that anyone undertaking construction works on the site (including sub-contractors) is made aware of the protected status of great crested newts, from killing and injury and the procedure to follow in the unlikely event that great crested newts are discovered during works.

Within the construction zone, the following methods of working will be adopted:

- All clearance works will be undertaken when amphibians are likely to be fully active and during the period April to September, inclusive.

- Clearance of logs, brash, stones, rocks or piles of similar debris will be undertaken carefully and by hand.
- Clearance of tall vegetation will be undertaken using a strimmer or brush cutter with all cuttings raked and removed the same day. Cutting will only be undertaken in a phased way which may either include:
 - Cutting vegetation to a height of no less than 30mm, clearing no more than one third of the site in anyone day or;
 - Cutting vegetation over three consecutive days to a height of no less than 150mm at the first cut, 75mm at the second cut and 30mm at the third cut;
- Following removal of tall vegetation using the methods above, remaining vegetation will be maintained at a height of approximately 30mm through regular mowing or strimming to discourage amphibians moving into the site.
- Ground clearance of any remaining low vegetation (if required) and any ground works will only be undertaken following the works above.
- Any trenches left overnight will be covered or provided with ramps to prevent amphibians from becoming trapped.
- Building materials such as bricks, stone etc. will be stored on pallets to discourage amphibians from using them as shelter. Any demolition materials will be stored in skips or similar containers rather than in piles on ground.

5.4.2 Birds

It is recommended that the removal of woody vegetation (if required) is undertaken outside of the breeding bird period, avoiding March to August inclusive. This will avoid any potential impacts on active birds' nests.

It is recommended that integrated bird boxes, as summarised above, are installed into the external walls of the proposed dwelling.

5.4.3 Bats

As an enhancement measure, it is recommended that an integrated bay roost feature is installed within the external wall of the proposed dwelling, as summarised above. In addition, a bat box could also be erected on a retained tree. These could be wooden bat boxes or longer-lasting woodcrete boxes. There should be no external lighting, or light spillage, on these boxes/features.

External lighting should be avoided generally, particularly any lighting along garden boundaries. External lighting should only be installed for reasons of safety and security and should be designed in such a way as to avoid and minimise potential impacts on bats that may be active within the locality in accordance with guidance contained in '*Bats and artificial lighting in the UK Bats and the Built Environment series Guidance Note 08/18*' (Bat Conservation Trust and the Institute of Lighting Professionals).

Where needed, lighting should be kept at low level and at low intensity, with hoods and baffles used to direct the light to where it is required. To minimise the impact on bats, the use of low pressured sodium lamps is recommended in preference to mercury or metal halide lamps which have a UV element that can affect the distribution of insects and attract bats to the area, affecting their natural behaviour.

All lighting should be at low level and be directed to where it is required along paths and access routes. The key principals for choosing a suitable type of lamp are:

- Avoid blue-white short wavelength lights: these have a significant negative impact on the insect prey of bats. Use alternatives such as warm-white (long wavelength) lights as this will reduce the impact on insects and therefore bats.
- Avoid lights with high UV content (e.g., metal halide or mercury light sources) or reduce/completely remove the UV content of the light. Use UV filters or glass housings on lamps which filter out a lot of the UV content.

Selecting an appropriate lamp unit that is designed to be environmentally friendly will minimise light spill, but further controls can be imposed by installing directional accessories such as baffles, hoods and louvres on lamps to direct light away from ecologically sensitive areas.

LED (Light Emitting Diode) units are an effective way to direct the light into small target areas and are recommended for lighting. Composite LEDs can be switched off to reduce/direct the light beam to specific areas.

5.4.4 Hedgehogs

If a hedgehog is discovered during works, it should be either allowed to move to a safe area under its own power or be moved by hand to a relatively nearby, safe location, such as an adjacent garden. Hedgehogs should be moved no further than 200m from where they are found as they may have dependant young that rely on their return for survival.

When handling hedgehogs, gloves should be worn to protect the handler from their spines, infection and parasites.

In the unlikely event that an occupied hedgehog nest is disturbed, or a baby hedgehog is encountered (eyes shut) all works will stop in the vicinity and advice be sought from an appropriate wildlife hospital (such as Tiggywinkles) or animal charity (such as the RSPCA). If the nest has been exposed or destroyed then the entire nest should be covered over, for example with a bucket. Baby hedgehogs should not be handled with bare hands as this can result in abandonment by their mother.

As a precautionary measure, all excavations over 50cm deep will be covered at night, to prevent pitfall hazards to hedgehogs. All excavations under 50cm in depth will be provided with a wooden ramp, to allow hedgehogs to exit.

It is recommended that any fences (that could act as a barrier to hedgehog movement) are made permeable for hedgehogs. This can be achieved by cutting or leaving a 13cm by 13cm hole within the fence or wall; this is sufficient for any hedgehog to pass through and this is too small for nearly all pets.

6 References

Bat Conservation Trust, 2014. *The State of the UK's Bats 2014*. National Bat Monitoring Programme.

CIEEM, 2016. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

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

JNCC, 2010. *Handbook for Phase 1 Habitat Survey - a technique for environmental audit*. JNCC First published 1990; reprinted in 2010.

7 Appendix 1. Photographs



Photograph 1. General view of the site showing tall ruderal vegetation and the boundary hedge.



Photograph 2. Detail of the tall ruderal vegetation.



Photograph 3. The multi-stemmed sycamore tree in the south-central area of the site.



Photograph 4. Boundary hedge of cherry laurel.



Photograph 5. Pond 1.



Photograph 6. Pond 2.

8 Appendix 2. Location Plans



Ordnance Survey map showing the location of the site (indicated by the red arrow) within the wider area.



Aerial photograph showing the approximate location and extent of the site (outlined in red).

9 Appendix 3. Phase 1 Habitat Plan



10 Appendix 4. Species for 'Wildlife-friendly' Gardens

Common Name	Botanical Name
Trees	
Field maple*	<i>Acer campestre</i>
Beech*	<i>Fagus sylvatica</i>
Hornbeam*	<i>Carpinus betulus</i>
Willow*	<i>Salix sp.</i>
Silver birch*	<i>Betula pendula</i>
Rowan*	<i>Sorbus aucuparia</i>
Whitebeam*	<i>Sorbus aria</i>
Alder*	<i>Alnus glutinosa</i>
Wild cherry*	<i>Prunus avium</i>
Flowering cherry	<i>Prunus sp.</i>
Flowering pear	<i>Pyrus calleryana</i>
Crab apple*	<i>Malus sylvestris</i>
Fruiting apple	<i>Malus sp.</i>
English oak*	<i>Quercus robur</i>
Elm*	<i>Ulmus sp.</i>
Small-leaved lime*	<i>Tilia cordata</i>
Shrubs	
Holly*	<i>Ilex aquifolium</i>
Hazel*	<i>Corylus avellana</i>
Wayfaring tree*	<i>Viburnum lanata</i>
Wild service tree*	<i>Sorbus torminalis</i>
Buckthorn*	<i>Rhamnus cathartica</i>
Guelder rose*	<i>Viburnum opulus</i>
Hawthorn*	<i>Crataegus monogyna</i>
Hebe	<i>Hebe sp.</i>
Rosemary	<i>Rosmarinus</i>
Ceanothus	<i>Ceanothus sp.</i>
Weigela	<i>Weigela sp.</i>
Dog rose	<i>Rosa canina</i>
Dogwood*	<i>Cornus sanguina/alba</i>
Rose (single flowered varieties)	<i>Rosa sp.</i>
Wild privet*	<i>Ligustrum vulgare</i>
Garden privet	<i>Ligustrum ovalifolium</i>
Lilac	<i>Syringa vulgaris</i>
Escallonia	<i>Escallonia sp.</i>
Lavender	<i>Lavandula sp.</i>
Flowering currant	<i>Ribes sp.</i>
Honeysuckle*	<i>Lonicera periclymenum</i>
Mexican orange blossom	<i>Choisya sp.</i>
Spiraea	<i>Spiraea sp.</i>
Amelanchier	<i>Amelanchier lamarckii/canadensis</i>
Cotoneaster	<i>Cotoneaster sp.</i>
Yew*	<i>Taxus baccata</i>

Broom	<i>Cytisus sp.</i>
Rose of Sharon	<i>Hypericum calycinum</i>
Firethorn	<i>Pyracantha sp.</i>
Butterfly bush	<i>Buddleia davidii</i>
Clematis	<i>Clematis sp.</i>
Perennials	
Elephant's ears	<i>Bergenia cordifolia</i>
Sage	<i>Salvia sp.</i>
Lamb's ears	<i>Stachys byzantia</i>
Periwinkle*	<i>Vinca major & Vinca minor</i>
Ivy*	<i>Hedera helix</i>
Bugle*	<i>Ajuga reptans</i>
Lady's mantle	<i>Alchemilla mollis</i>
Geraniums	<i>Geranium sp.</i>
Globe thistle	<i>Echinops ritro</i>
Monk's hood	<i>Aconitum sp.</i>
Yarrow*	<i>Achillea millefolium</i>
Teasel*	<i>Dipsacus fullonum</i>
Oriental poppy	<i>Papaver orientalis</i>
Michaelmas daisy	<i>Aster sp.</i>
Bear's breeches	<i>Acanthus spinosus</i>
Montbretia	<i>Crocsmia sp.</i>
Purple coneflower	<i>Echinacea purpurea</i>
Ornamental onion	<i>Allium sp.</i>
Catmint	<i>Nepeta sp.</i>
Verbena	<i>Verbena sp., Verbena bonariensis</i>
Marjoram	<i>Origanum majorana</i>
Thyme	<i>Thymus sp.</i>
Crocus	<i>Crocus sp.</i>
Daffodil	<i>Narcissus sp.</i>
Snowdrop	<i>Galanthus nivalis</i>
Winter aconite	<i>Eranthis sp.</i>
Bluebell*	<i>Hyacinthoides non-scripta</i>
Primrose*	<i>Primula veris</i>
Forget-me-not*	<i>Myosotis sp.</i>
Grape hyacinth	<i>Muscari botryoides</i>
Hollyhock	<i>Althaea rosea</i>
Lenten rose	<i>Helleborus orientalis</i>
Foxglove*	<i>Digitalis purpurea</i>
Greater knapweed*	<i>Centaurea scabiosa</i>
Great mullein*	<i>Verbascum thapsus</i>
Toadflax*	<i>Linaria vulgaris</i>
Meadow crane's-bill*	<i>Geranium pratense</i>
<i>*indicates native species</i>	

11 Appendix 5. TVERC Data Search Report

Please refer to separate report.