



25 Ham Farm Road, Richmond

**Preliminary Ecological Appraisal
Report**

On Behalf of

Proctor & Shaw

Version 2 | March 2022



Photo showing the rear of the dwelling with garden, taken from south east of Site.

Document Control

Version	Date	Produced by	Reviewed by	Notes
Version 1	2 nd March 2022	Sammi Smith MSc, Graduate Ecologist	Ana Pino-Blanco MSc, BSc (Hons) Ecologist Alex Jessop MSc, Ecologist	
Version 2	18 th March 2022	Sammi Smith MSc, Graduate Ecologist		Updated proposal plan.

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This report does not purport to provide legal advice. This report provides baseline ecological conditions for the aforementioned site and is considered relevant for a period of no more than 12 months from the date of the Site Visit.

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Ecological Risk Assessment




The following Ecological Risk Assessment provides an infographic summary of the Preliminary Ecological Appraisal of 25 Ham Farm Road, Richmond. This includes the requirements, including further surveys or mitigation, necessary to comply with relevant legislation and policy. Enhancement measures are also provided in line with the National Planning Policy Framework¹. An assessment of potential impacts has been made based on the proposals for the Site, which includes clearance of existing bungalow dwelling and garage to erect a new bungalow dwelling and car port.

This Eco RA is not intended as a substitute for reading the full report as set out in the proceeding pages.

Risk Code Key		
	High Risk	Ecological issue(s) requiring further survey work and/or mitigation prior to planning application
	Moderate Risk	Ecological issue(s) requiring mitigation without requiring further survey
	Low Risk	No significant ecological issues identified. No further action required.

Risk Code	Factor	Comments and Actions Required	Timings
	Bats	<p>The dwelling onsite has features which are suitable for a low status bat roost. The crack willow tree onsite is also considered to have moderate suitability; however, this is to be retained. The trees and shrubs provide foraging and commuting habitat with suitable roosting and foraging habitat also present within the wider area. The development will see the clearance of a building which has features suitable for roosting bats. Any additional lighting above the existing lighting levels may reduce commuting and foraging habitats.</p> <p>Requirements: A single dusk emergence survey to be undertaken between May and August to ascertain whether bats are roosting in the dwelling. If bats are present then further surveys, a Natural England license, and mitigation strategy may be required;</p> <p>A bat friendly lighting scheme should be included ensuring that any bat boxes or vegetation remain unlit; &</p> <p>An integrated bat box to be included in the new dwelling.</p> <p>Enhancements: Landscape proposals to incorporate night scented plants; &</p> <p>A bat box to be mounted on retained willow tree.</p>	<p>Prior to determination May – August.</p> <p>Design Stage</p> <p>Design Stage</p> <p>Design Stage</p> <p>Design Stage</p>

Risk Code	Factor	Comments and Actions Required	Timings
	Habitats	<p>The habitats onsite consisted of buildings of negligible ecological value and vegetated garden with low ecological value. The dwelling is to be cleared however the majority of vegetation is to be retained with the exception of that growing up or along the dwelling.</p> <p>Requirements: Protect all retained trees and hedgerows with root protection measures in line with BS 5837:2012;</p> <p>Tree planting of broadleaved native species; &</p> <p>Pollinator and wildlife friendly native planting.</p> <p>Enhancements: Proposed Pond to be designed to best benefit wildlife as detailed in report; &</p> <p>Proposed green roof to included species rich pollinator friendly wildflower mix.</p>	<p>Pre- and during construction</p> <p>Design Stage</p> <p>Design Stage</p> <p>Design Stage</p> <p>Design Stage</p>
	Birds	<p>The trees and shrubs onsite provide suitable nesting habitat for a range of common bird species. The majority of this habitat is to be retained with the exception of the shrubs growing upon the dwelling to be cleared. This could see the damage or destruction of active nests.</p> <p>Requirements: Clearance of sections of the scrub to be undertaken outside of the nesting bird season (1) to avoid impacts to active nests; or, during the nesting season (2) to be undertaken at most 48 hours after a nesting bird check performed by an ecologist; &</p> <p>An integrated house sparrow terrace box should be included in the new dwelling.</p> <p>All nest boxes should be woodcrete to reduce chance of predation by squirrels or ring-necked Parakeets.</p> <p>Enhancements: Two hole fronted nest boxes to be installed on new dwelling or mounted on retained tree; &</p> <p>Two starling nest boxes to be installed on new dwelling or mounted on retained tree.</p>	<p>Pre-construction, (1) Oct – Feb; or (2) Mar – Sept</p> <p>Design Stage</p> <p>Design Stage</p> <p>Design Stage</p>
	Priority Species (Fauna and Flora)	<p>The shrubs onsite provide potential foraging and refuge habitat for hedgehogs.</p> <p>Requirements: Any small mammal disturbed during construction should be allowed to flee of their own volition to the Site boundary.</p> <p>Enhancements: A hedgehog house to be installed in a quiet area of the Site, such as within the retained trees to the west of the Site.</p>	<p>Pre- and during construction</p> <p>Design Stage</p>

Risk Code	Factor	Comments and Actions Required	Timings
	Invasive Species	<p>Three species from the London Invasive Species Initiative list were noted onsite during the Site visit.</p> <p>Requirements: Should the development removed these species; they should be removed as per best practice guidance for said species;</p> <p>Clearance of the Site should be in conjunction with any other recommendations; &</p> <p>Landscape plans should avoid the inclusion of any species listed on Schedule 9 of WCA.</p>	<p>Pre- and during construction</p> <p>Pre- and during construction</p> <p>Design stage</p>
	Statutory and Non-Statutory Designated Sites Great Crested Newts Reptiles	Discussed but no further action required.	
	Badger Water Vole Otter White-clawed Crayfish Hazel Dormice	<p>Considered but screened out due to a lack of suitable, connecting, or linked habitat combined with a lack of evidence onsite.</p> <p>No action required</p>	

1 Introduction

1.1 Background

Practical Ecology Ltd were commissioned by Proctor & Shaw to undertake a Preliminary Ecological Appraisal (PEA) of 25 Ham Farm Road herein referred to as the 'Site'.

This report presents ecological information gathered during a desk study and an ecological walkover survey of the Site undertaken on 10th February 2022.

The purpose of this report is to provide baseline ecological information pertaining to the Site, alongside the rationale for required further surveys and mitigation as deemed appropriate to ensure compliance with legislation and policy, and recommend enhancement measures to achieve biodiversity net-gain in line with the NPPF.

Ecological baseline information for the Site is crucial to ensure potential effects of the development upon flora and fauna can be suitably managed. Furthermore, any constraints upon the proposed development of the Site, imposed by site ecology, can be assessed. Enhancement measures are presented which allow site biodiversity to be improved, whilst considering the legal requirements and best practice regarding protected species and/or habitats.

1.2 The Site

The Site is approximately 0.1 ha (central OS grid reference TQ 18049 71686, postcode TW10 5NA) and is located in Richmond, London, c. 17 km from central London. The Site comprises of a bungalow dwelling with garage and garden to front and rear. Surrounding the Site are dwellings and gardens to the south, the River Thames 720 m south and Ham Common and Richmond Park to the north. A Site boundary (red line) is provided in Figure 1 below.



Figure 1: Site Boundary

Proposed Development

The proposals include clearance of the existing bungalow dwelling and garage to erect a new bungalow dwelling with car port along with landscaping. A proposal plan has been included in Appendix 1 (Drawing number: P.09).

2 Methods of Assessment

2.1 Desk Study

A search for Statutory Sites of Nature Conservation Importance and Priority Habitats² within 1 km of the Site was undertaken using the Multi Agency Geographical Information for the Countryside (MAGIC)³.

Ordnance Survey maps and satellite imagery from online sources were consulted to identify the presence of any water bodies within 500 m of the Site. Historic OS maps and satellite imagery was also used to assess any changes to the onsite habitats.

Records of protected species, notable species, invasive species, and non-statutory sites from within 1km of the Site were procured from Greenspace Information for Great London⁴ as part of this desk-based study and are presented in this report. Records provided by the record centre that are more than ten years old are only reported on if they are deemed to still be relevant.

The relevant Local Biodiversity Action Plan, London's Biodiversity Action Plan⁵, was consulted to determine whether species and habitats identified (by both the desk study and the field survey) on and around the Site are subject to specific action plans. The list of UK Biodiversity Action Plan (UK BAP) species⁶ was also consulted as this remains an important reference source, despite being succeeded by the UK Post-2010 Biodiversity Framework⁷.

2.2 Preliminary Ecological Appraisal Site Survey

A Preliminary Ecological Appraisal survey of the Site was undertaken on 10th February 2022 by Alex Jessop MSc, an Ecologist with over four years' experience and Sammi Smith MSc, a Graduate Ecologist with over six months' experience.

This survey assessed the value of onsite and adjacent habitats and their potential to support protected or notable species and habitats following the Guidelines for Preliminary Ecological Appraisal⁸ published by the Chartered Institute for Ecological and Environmental Management (CIEEM).

Habitats

Habitats were classified as per the criteria set out in the Handbook for The UK Habitat Classification⁹ with the prescribed habitat primary and relevant secondary habitat codes included. Habitats were checked against the definitions for Priority Habitats. Priority Habitats are those which are identified as a Habitat of Principal Importance in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006².

European Protected Species

Following the UK exit from the European Union (EU), species formerly protected under the Habitat Regulations are now considered to be protected under The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019¹⁰ and will continue to be referred to as European Protected Species (EPS). Further legislative details regarding protected species are included in Appendix 33.

Great Crested Newt (Triturus cristatus)

Great crested newts use both terrestrial and aquatic habitat within their lifecycle, with all habitat used being legally protected. The terrestrial and, if present, aquatic habitats onsite were assessed for their value and suitability for great crested newts. The proximity of ponds within 500 m and any habitat linking such ponds to the Site was also assessed as an important factor determining the likelihood of the species being present onsite. Any ponds present onsite or accessible during the survey were assessed using the Habitat Suitability Index (HSI) Assessment¹¹ where appropriate.

Bats

Any trees or buildings present onsite were assessed for their suitability for roosting bats using the protocol set out in Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed)¹². Where necessary this included the use of binoculars to allow for a ground level assessment to search for signs such as staining and/or droppings sometimes found around roost entrances. Internal inspections of buildings or loft voids were undertaken where possible, using ladders and crawling boards if appropriate. It is noted that a lack of evidence of roosting bats, such as presence of bats, droppings, or staining, does not correlate to a lack or presence or a lack of suitability.

Habitats were assessed for their suitability for foraging and commuting bats, as set out in Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed)¹².

Hazel Dormice (Muscardinus avellanarius)

The Dormouse Conservation Handbook (2nd Ed.)¹³ provides a level of guidance on assessing a site where the status of hazel dormice is unknown. This assessment is made based upon historical records as well as the habitat and plant species present on and adjacent to the Site. As hazel dormice have a large range, a lack of evidence does not correlate to a lack of presence.

Otter (Lutra lutra) | White Clawed Crayfish (Austropotamobius pallipes)

Suitable waterbodies (if present) on or adjacent to the Site were assessed for their suitability to support these species, where access was possible. Any incidental evidence of the presence of these species on site (e.g. holts, spraints, foraging signs) was also recorded.

Other Species

Protected under the Wildlife and Countryside Act 1981¹⁴ or further specific legislation, further detailed within Appendix 3.

Birds

Habitats on site were assessed for their potential to support nesting birds as well as important numbers of breeding and wintering birds.

Reptiles

Terrestrial habitats on site were assessed for their potential to support common reptile species, based on factors including vegetation structure and composition, and the availability of shelter and foraging resources. All UK reptiles are protected, with rare species (smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) also given EPS status.

Water Vole (Arviculus amphibius)

Suitable waterbodies (if present) on or adjacent to the Site were assessed for their suitability to support these species, where access was possible. Any incidental evidence of the presence of these species on site (e.g. burrows, latrines, foraging signs) was also recorded.

Badger (Meles meles)

Habitats on site were assessed for their suitability for badger foraging and sett building. Any incidental evidence of the presence of badgers on site (e.g. setts, paths, prints, foraging signs, and latrines) was recorded.

Priority Species

Habitats on site were assessed for their suitability for Priority Species. Priority Species are those listed as of Principal Importance in England under Section 41 of the NERC Act 2006¹⁵, those listed as Local Priority Species, or those that feature on the relevant Local Biodiversity Action Plan. Any incidental evidence of the presence of these species on site was also recorded. The presence of rare or notable plant species, such as red data list species¹⁶, was also noted.

Invasive Species

A search was made for evidence of the presence of invasive plant species listed in Schedule 9 of the Wildlife and Countryside Act 1981 as they are subject to strict legal control.

2.3 Enhancements for Biodiversity Net Gain

In accordance with policy set out in the National Planning Policy Framework (NPPF)¹ all new developments are required to deliver a net gain in biodiversity. Specifically, NPPF notes an environmental objective to protect and enhance the natural environment and to improve biodiversity (S2. p. 8c) and that all development should be ‘...providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures’ (S15. p.174d).

This report therefore seeks to provide suitable Site-specific habitat and species enhancements which will provide the biodiversity net gain required as part of the NPPF.

2.4 Limitations to Survey

Due to the seasonal behaviour of animals and the seasonal growth patterns of plants, ecological surveys may be limited by the time of year in which they are undertaken. Some plant species are not readily identifiable in February having died back over winter and have yet to grow fully. Many animals in the UK have variable detectability throughout the year due to seasonal behaviour, including hibernation and migration. Therefore, this survey may not provide a complete list of the plants and animals present, or which may utilise the Site throughout the year.

As part of standard practice, a data search has been undertaken from the local biological record centre. This is not considered to be a complete list of species present and is better considered to be a list of species recorded, with many species known to be under recorded.

However, these limitations are not considered to have affected the accuracy of the assessment or the recommendations provided in this report and, where considered necessary, recommendations for further survey have been made to overcome these limitations.

This report presents conditions and recommendations for the Site based on the state of the Site during the survey visit. Any changes to the Site prior to development, including changes in the management of the Site habitats will therefore potentially invalidate this report and its recommendations.

3 Existing Conditions and Assessment of Effects

3.1 Summary

The following sites, species or ecological features have the potential to be affected by the development, or their presence has been detected during the desk study or data search. As such, they are discussed further in this report and action points, mitigation and compensation measures are recommended as necessary:

- Habitats
- Statutory and Non-Statutory Sites of Nature Conservation
- Great Crested Newts
- Bats
- Birds
- Reptiles
- Priority & Notable Species (Fauna and Flora)

The following species are very unlikely to occur on the Site, in adjacent habitats either due to a lack of suitable habitat or as they have localised distributions in the UK. As such, the proposed development does not pose a threat to the following species and they are not discussed further as no further survey or mitigation is considered necessary:

- White-Clawed Crayfish
- Badgers
- Hazel Dormice
- Water Vole
- Otter
- Invasive Species

Site photos are included in Appendix 2. Refer to Appendix 3 for details of the legislation and guidance relevant to each protected species.

3.2 Site Description and Habitats

3.2.1 Desk Study

The desk study returned the following records of parcels of notable habitats within 1 km of the Site:

Table 1: Notable Habitats within 1km of the Site

Habitat	Areas	Parcels	Closest to Site
Deciduous Woodland (Priority Habitat Inventory)	10	92	10 m NE
Woodpasture and Parkland (BAP Priority Habitat)	1	3	100 m NE
Good quality semi-improved grassland (Priority Habitat Inventory)	3	21	350 m NE
Traditional Orchards (Priority Habitat Inventory)	1	9	610 m NW
Lowland Dry Acid Grassland (Priority Habitat Inventory)	3	26	730 m E

The habitats listed in Table 1 bare no similarity to those occurring within the Site, detailed below.

3.2.2 Field Survey

Habitats noted on the Site were assessed using the Handbook for The UK Habitat Classification¹⁷ and included modified grassland; vegetated garden and buildings. Primary and secondary habitat codes are included for ease of reference.

Onsite Habitats

Built-up areas and gardens; Vegetated garden (u1; 231)

The front garden had lawn comprising of predominately perennial ryegrass (*Lolium perenne*), with bent sp. (*Agrostis sp.*), fescue sp. (*Festuca sp.*) and doves foot cranesbill (*Geranium molle*). The vegetated garden consisted of butterfly bush (*Buddleja davidii*), fennel (*Foeniculum vulgare*), ornamental hypericum (*Hypericum perforatum*), hebe (*Hebe*), green alkanet (*Pentaglottis*), holly (*Ilex*), pink snowberry (*Symphoricarpos × chenaultii*), climbing hydrangea (*Hydrangea petiolaris*), hellebore sp. (*Helleborus sp.*), willow herb (*Epilobium*) and an olive tree (*Olea europaea*).

The rear garden consisted of lawn with species composition the same as the front lawn. The vegetated garden included species such as bay leaf (*Laurus nobilis*), rosemary (*Salvia rosmarinus*), sage (*Salvia officinalis*) and *Mahonia sp.* Trees included a mature crack willow (*Salix fragilis*), a pine sp. (*Pinus sp.*), apple (*Malus domestica*) and cherry (*Prunus sp.*).

This is of low ecological value.

Buildings (u1b5)

Building 1 refers to the existing dwelling and connected garage. This is of brick construction with a mainly flat roof and slight fall to the middle section of the dwelling.

Building 2 refers to the shed at the south east of the rear garden. This is of brick construction and flat felt roof.

These buildings have no ecological value in their own right, but are discussed further in the relevant species-specific section.

Developed land; Sealed surface (u1b)

This included areas of concrete, brick, and patio slabs to make up the driveway and paths. This has negligible ecological value.

Surrounding Habitats

Surrounding the Site are dwellings and gardens to the south, the River Thames 720 m south and Ham Common and Richmond Park to the north.

Surrounding the Site were:

- *Built-up areas and gardens (u1)* in the form on neighbouring dwellings to the south.
- *Urban; Parks and gardens (u; 20)* in the form of Ham Common and Richmond Park to the north.
- *Rivers and streams; Natural watercourse (r2; 411)* in the form of the River Thames 720 m south.

3.2.3 Assessment of Effects

The existing dwelling and garage will be cleared, along with any vegetation growing up or along the building. The tree labelled as T007 (as noted within the Arboricultural report¹⁸) is to be removed but will be replaced.

All of the habitats to be removed are common and ubiquitous, or have no ecological value in their own right, with the exception of any shrubs in close proximity to the building which will be lost. This is discussed further in the following species-specific sections of this report.

3.2.4 Requirements

The following will ensure there is no net loss of biodiversity.

Design Stage

- Tree planting of three broadleaved native species.
- Pollinator and wildlife friendly native planting within landscaping.

Pre-Construction/ Construction Stage

- Root and tree/hedgerow protection measures (in line with the British Standard for trees in relation to construction BS 5837:2012) must be installed in the pre-construction phase and maintained throughout the construction phase.

3.2.1 Enhancements for Biodiversity Net Gain

Design Stage

- Proposed pond to be designed to best benefit wildlife with varying depths, access in and out and native aquatic planting¹⁹.
- Proposed green roof to included species rich, pollinator friendly wildflower mix.

3.3 Statutory and Non-Statutory Sites of Nature Conservation Value

3.3.1 Desk Study

The desk study returned four records for Statutory and seven Non-Statutory Sites within 1 km of the Site. The Site lies in an Impact Risk Zone (IRZ), which are used by local authorities to assess whether developments are likely to impact Statutory Sites, including internationally designated sites²⁰ as well as Sites of Special Scientific Interest (SSSIs). Information regarding the relevant Statutory Site, *Richmond Park, SSSI, SAC* is noted in Table 2.

Table 2: Statutory and Non-Statutory Site Descriptions

Name	Designation	Distance (m)	Direction	Notable Features
Statutory Sites				
Ham Common	Local Nature Reserve (LNR)	10 m	E	Most of the site has been succeeded by birch and oak woodland.
Richmond Park	Special Area of Conservation (SAC)	700 m	E	Managed as a royal deer park since the 17 th century.
	Site of Special Scientific Interest (SSSI)			
Ham Lands	LNR	1 km	W	Area of infilled gravel pits, some old water meadows and a narrow belt of woodland.
Non-statutory Sites				
Ham Common west	SINC	270 m	NW	Area of short acid grassland with pond.
Cassel Hospital	SINC	285 m	W	Hospital grounds with lawns of acid grassland, a fringe of woodland and an old walled garden.
Richmond Park and associated areas	SINC	700 m	E	Acid grassland, bracken, pond/lake, secondary woodland, veteran trees and wet grassland.
River Thames and tidal tributaries	Site of Importance for Nature Conservation (SINC)	730 m	SW	Comprising of a number of habitats not found elsewhere in London to include mud-flats, shingle beach and inter-tidal vegetation, islands and the river channel itself.
Royal Park Gate Open Space	SINC	800 m	SW	A public park next to the River Thames.
Ham Lands	SINC	1 km	W	Restored gravel pits.

Name	Designation	Distance (m)	Direction	Notable Features
The Copse, Holly Hedge Field and Ham Avenues	SINC	1 km	N	A flowery meadow, a stand of ancient oaks and an historic avenue of lime trees.
IRZ – Statutory Sites				
Richmond Park	SSSI, SAC, NNR	700 m	E	Managed as a royal deer park since the 17 th century.

3.3.2 Assessment of Effects

The Site does not bare any similarity to the Statutory and Non-Statutory Sites identified in Table 2. Along with this and the scale of the development, the development will not have any negative impacts.

The Site lies within an IRZ, however does not meet the criteria where the development will have an impact on the sites and therefore the LPA does not have to consult with Natural England.

3.3.3 Requirements

No mitigation is recommended.

3.4 Great Crested Newts

3.4.1 Desk Study

The desk study returned no records of great crested newts within 1 km of the Site.

Two ponds were identified within 500 m of the proposed development. These ponds were created for a local toad population within Ham Common, where there is an active toad patrol in the area. Figure 2 shows the pond locations in relation to the Site, with the 500 m search area highlighted. Details of the ponds are provided in Table 3, overleaf.

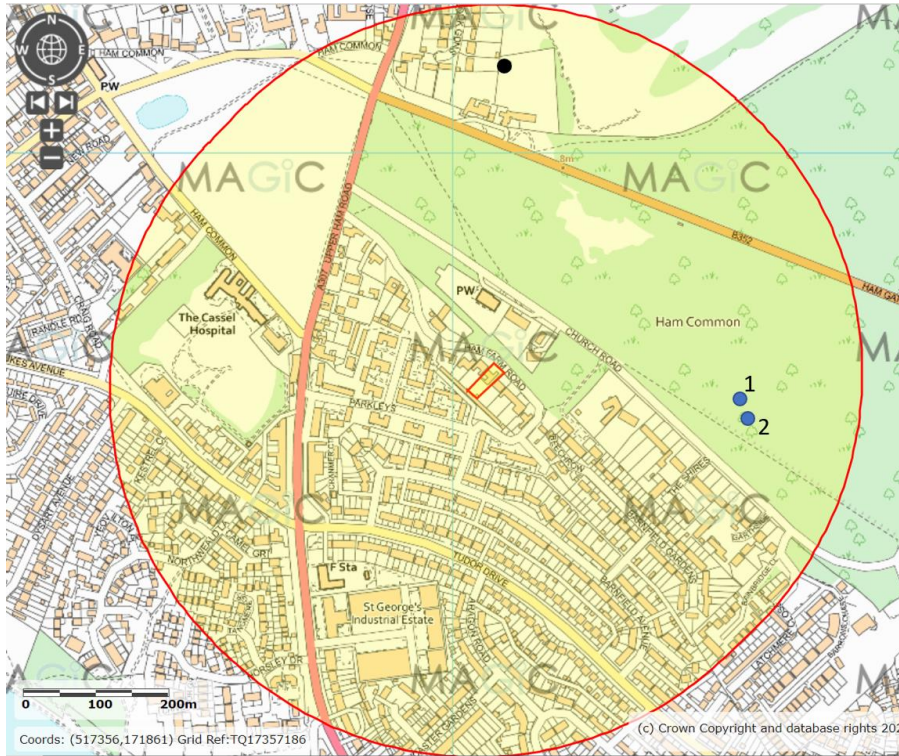


Figure 2: Ponds within 500m of the Proposed Development

3.4.2 Field Survey

The Site had potential suitable terrestrial great crested newt habitat in the form of grassland and shrubs for dispersal and refuge habitat. The search returned no suitable aquatic within close proximity to the Site.

Table 3: Pond Details

Pond #	Distance (m)	Direction	Visited	HSI Score	Dispersal Barriers to the Site & Notes
1	360 m	E	No	-	Distance is a barrier to Site. Lack of GCN records.
2	360 m	E	No	-	Distance is a barrier to Site. Lack of GCN records.

3.4.3 Assessment of Effects

It is considered unlikely that great crested newts are present onsite, due to the Sites isolation from any suitable aquatic habitat. The only ponds identified in the desk study were 360 m away and research from English Nature (now Natural England) has shown great crested newts to primarily remain within 100 m of breeding ponds and are rarely present outside 250 m from a breeding pond without suitable connecting habitat and reduced habitat within 250 m of a pond²¹.

Further to this, the desk study returned no records of great crested newts within 1 km of the Site. The active toad migration patrol in Ham Common means regular monitoring of this area is carried out and therefore the lack of great crested newt records suggests there are no known populations in the area.

3.4.4 Requirements

No further recommendations are made with regards to this species.

3.5 Bats

3.5.1 Desk Study

The following species of bat were noted within the 1 km data search occurring within last 10 years:

- Serotine (*Eptesicus serotinus*)
- Myotis species (*Myotis sp.*)
- Daubenton's bat (*Myotis daubentonii*)
- Noctule (*Nyctalus noctule*)
- Nyctalus species (*Nyctalus sp.*)
- Leisler's bat (*Nyctalus leisleri*)
- Pipistrelle species (*Pipistrellus sp.*)
- Common pipistrelle (*Pipistrellus pipistrellus*)
- Soprano pipistrelle (*Pipistrellus pygmaeus*)
- Nathusiu's pipistrelle (*Pipistrellus nathusii*)
- Long-eared bat species (*Plecotus*)
- Unidentified species (*Chiroptera*)

Granted European Protected Species Applications search on MAGIC maps returned the following:

- Granted application 2015-15368-EPS-MIT to allow the destruction of a resting place for common pipistrelle and soprano pipistrelle, 2015-2020. This was located approximately 625 m to the south east of the Site.

3.5.2 Field Survey

Roosting Habitat

Buildings

The buildings onsite were assessed for potential roost features. Figure 3 below shows an aerial plan of the dwelling, referred to as Building 1, with the locations of potential roost features marked. These features are discussed below.

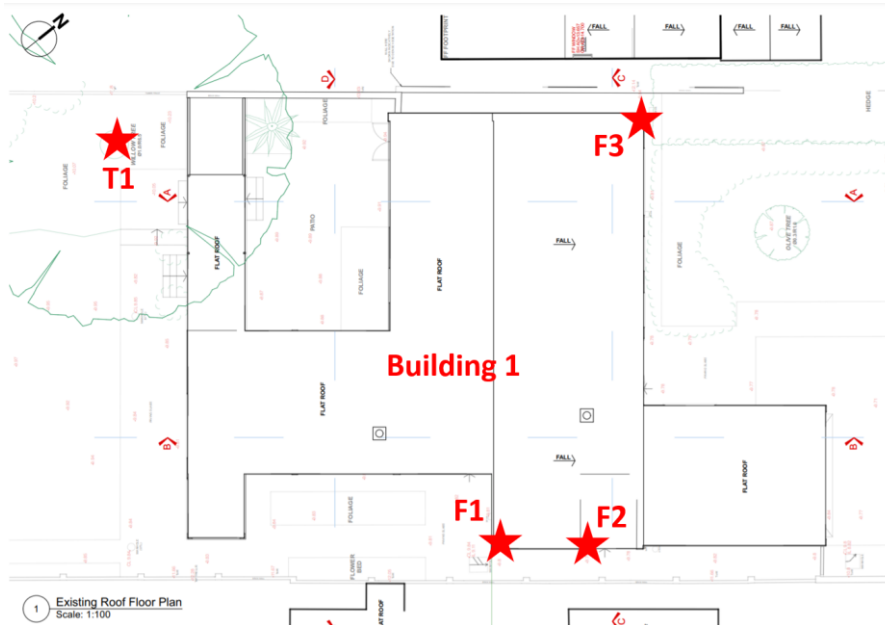


Figure 3: Aerial Plan of Dwelling with Features Marked.

Building 1 – Low Suitability¹²

The building is of brick construction with a section of wood cladding to the front and the majority of the roof flat except for the slight fall in section in the middle. Externally, three potential roost features were noted, marked as F1, F2 and F3 on Figure 3 above, with details provided below.

F1: A gap between the bricks and roof gave access onto the wall plate. An endoscope search found no evidence of bats; however, it is considered a potential roost feature. See photo 9 in appendix.

F2: A crack between the bricks and roof, although too small for the endoscope, access for small bat species such as common pipistrelle might be possible. The area is cobwebbed suggesting it is not currently in use. See photo 10 in appendix.

F3: A slight gap between cladding and roof. This however was considered unsuitable for bats as the area was too enclosed by the neighbouring property obstructing possible flight paths.

Internally, the loft void is shallow and has vast light ingress due to an opening in the roof fall with windows (see photo 11 in appendix). No other light ingress indicating access points was identified. Mouse droppings were found but no bat droppings were present.

The connected garage has a suspended ceiling 20 cm down from the roof with the void being heavily cobwebbed. It appeared tightly sealed, however the void had limited access with no obvious access points. See photos 14 and 15 in appendix.

Building 2 – Negligible Suitability¹²

The shed was of brick construction and tightly boarded and no potential access points were identified.

Tree – Moderate Suitability

Potential roost features were identified on one tree onsite, a crack willow tree (T1 on Figure 3), with pruning cuts and knot holes. The knot hole appeared dug out to the bottom and hollowed out at the top and showed signs of potential use by the ring-necked parakeets noted onsite. The holes have possible suitability for roosting bats; however, the current proposal plans are retaining this tree.

Foraging and Commuting

Habitats surrounding the Site include the woodland at Ham common and Ham Lands Nature Reserve to the east and west, and the River Thames further to the south. This habitat offers excellent foraging, commuting and roosting opportunities.

As the trees and shrubs on Site are connected to the wider landscape through surrounding garden hedges, trees and other linear features, the Site offers moderate suitability for foraging and commuting bats.

3.5.3 Assessment of Effects

Without further assessment, the development has potential to cause the injury or death of bats and damage or destroy a bat roost. Further assessment is required to ascertain whether the building is used by bats for roosting.

The crack willow tree (T1) is to be retained in the current proposal plans. If plans change, any tree felling, or tree surgery works to tree T1 could damage or destroy bat roosts or kill/injure/disturb bats in which case, further assessment will be required.

The current proposal plans show the existing trees and the majority of shrubs are to be retained with additional planting. Therefore, there will not be a significant habitat loss but any additional lighting above the level of existing lighting levels may reduce its suitability for roosting, foraging, and commuting bats.

3.5.4 Requirements

Prior To Determination

A single dusk emergence survey should be undertaken between May and August to ascertain whether bats are roosting in the dwelling with focus on the features identified and marked in Figure 3. This should follow best practice guidelines¹². Should bats be present then further surveys, a Natural England license, and mitigation strategy may be required.

Design Stage

An integrated bat box to be included in the new dwelling, to be south or west facing, at least 4 m above ground (if this is not possible then install near to the wall plate or at the top of the wall) and away from windows and doors.

Any lighting schemes to be installed during and post-construction must be designed to prevent unnecessary light spill onto the vegetation and any bat boxes installed as part of the development. The following guidance²²²³ must be followed:

- Minimise light spill by eliminating any bare bulbs and upward pointing light fixtures. The spread of light must be kept near to or below the horizontal plane, by using as steep a downward angle as possible and/or shield hood. Flat, cut-off lanterns are best.
- Luminaires must feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats²⁴.
- A warm white spectrum (ideally <2700 Kelvin) must be adopted to reduce blue light component.
- All luminaires must lack UV elements when manufactured. Metal halide, fluorescent sources must not be used.
- Limiting the height of lighting columns to eight metres and increase the spacing of lighting columns²⁵ will reduce the spill of light into unwanted areas such as the aforementioned habitats.
- Artificial lighting proposals must not directly illuminate boundary habitats to the north, trees and vegetation, or bat box locations.

With these lighting measures implemented, it is considered that any potential adverse effects from lighting upon bats will be minimised.

3.5.5 Enhancements for Biodiversity Net Gain

The following are considered to be suitable enhancements for bats:

- Landscape proposals should incorporate night scented plants or those species beneficial to bats²⁶.
- A bat box to be mounted on retained willow tree, south or west facing, at least 4 m above ground with a clear line of flight.

3.6 Birds

3.6.1 Desk Study

Records of species returned by the data search included a range of species typical of the landscape surrounding the Site and included notable²⁷ species listed in Table 4, below.

Table 4: Notable Birds within Data Search

Species		Protection			
Scientific Name	Common Name	Schedule 1 WCA	BoCC Status	National Priority	Local Priority
<i>Apus apus</i>	Swift		Red		
<i>Passer domesticus</i>	House Sparrow		Red	✓	✓
<i>Sturnus vulgaris</i>	Starling		Red	✓	✓
<i>Prunella modularis</i>	Dunnock		Amber		✓
<i>Turdus philomelos</i>	Song Thrush		Amber	✓	✓
<i>Psittacula krameri</i>	Ring-necked Parakeet		Introduced		

3.6.2 Field Survey

The field survey noted the following species on the Site, seen in Table 5:

Table 5: Birds Recorded Onsite

Species			Protection			
Scientific Name	Common Name	Breeding?	Schedule 1 WCA	BoCC Status	National Priority	Local Priority
<i>Parus major</i>	Great Tit	Possible		Green		
<i>Cyanistes caeruleus</i>	Blue Tit	Possible		Green		
<i>Psittacula krameri</i>	Ring-necked Parakeet	Possible		Introduced		

The Site had suitable nesting habitat for common species of birds in the form of trees and shrubs. With some shrubs growing up or along the dwelling.

No active bird nests were observed on the Site during the Site visit, however a potential old ring-necked parakeet nest appeared present within the knot hole in the willow tree (T1).

3.6.3 Assessment of Effects

The development will see the loss of some potential nesting habitat with the shrubs growing up or along the dwelling being removed when the dwelling is cleared. This could see the damage or destruction of active nests if clearance is undertaken during the nesting season.

3.6.4 Requirements

Clearance of any trees or shrubs should be undertaken outside of the nesting bird season (the nesting bird season is considered to run from March to September, inclusive, but does vary depending on weather).

If this is not possible and clearance is undertaken during the nesting season, then it should only be undertaken within 24-48 hours of a nesting bird check undertaken by a suitably experienced ecologist. Should nests be encountered then clearance around the nest will be paused and a reasonable buffer installed until young have fledged the nest.

To compensate for the loss of nesting habitat an integrated house sparrow terrace box should be integrated into the new dwelling, at least 4m high, north or east facing in a sheltered condition.

All nest boxes installed in the development should be woodcrete to reduce chance of predation by squirrels or ring-necked Parakeets.

3.6.5 Enhancements for Biodiversity Net Gain

The following enhancements are considered suitable:

- Two hole fronted nest boxes to be installed on new dwelling or mounted on retained tree.
- Two starling nest boxes to be installed on new dwelling or mounted on retained tree, 3-4 m above ground level facing north or east.

3.7 Reptiles

3.7.1 Desk Study

The desk study returned two records for grass snake within 1 km of the Site. The most recent record dated 2019.

3.7.2 Field Survey

There is low suitability foraging habitat onsite.

3.7.3 Assessment of Effects

The Site is not big enough to support a population in its own right. It is considered unlikely that grass snakes will be present onsite.

3.7.4 Requirements

No requirements recommended.

3.8 Badger

3.8.1 Desk Study

The desk study returned 11 records for badger (*Meles meles*) within 1 km of the Site, with the most recent dated 2021, however the data search reported no locations for these records.

3.8.2 Field Survey

There was no evidence of badger noted onsite, with no setts, latrines or evidence of foraging noted.

3.8.3 Assessment of Effects

It is considered unlikely that badgers are present onsite.

3.8.4 Requirements

No requirements recommended.

3.9 Priority & Notable Species

3.9.1 Desk Study

The desk study returned 40 records for hedgehog (*Erinaceus europaeus*) within 1 km of the Site. The most recent record dated 2002.

3.9.2 Field Survey

The Site has potential foraging and refuge habitat for hedgehogs in the form of shrubs.

3.9.3 Assessment of Effects

The development has potential to cause injury or death to small mammals, including hedgehog, disturbed during Site clearance. However, the development is unlikely to cause any impacts to the population of any notable or priority species.

3.9.4 Requirements

Clearance of the Site should be in conjunction with any other recommendations.

Any small mammal disturbed during construction should be allowed to flee of their own volition or relocated to the Site boundary.

The development should seek to minimise the use of impermeable boundary fencing. This can be negated by ensuring that all boundaries are marked with hedgerows or permeable fencing; failing this, any impermeable fencing installed should have 13x13cm holes in the base to provide access.

3.9.5 Enhancements for Biodiversity Net Gain

A hedgehog house to be installed in a quiet area of the Site, such as within the retained trees to the west of the Site.

3.10 Invasive Species

3.10.1 Desk Study

The desk study returned the following records for London Invasive Species Initiative (LISI); nine records for butterfly-bush (*Buddleja davidii*), two records for cotoneaster *sp.*, seven records for New Zealand Pigmyweed (*Crassula helmsii*), four records for Canadian waterweed (*Elodea canadensis*), 10 records for Japanese knotweed (*Fallopia japonica*), five records for Spanish bluebell (*Hyacinthoides hispanica*), two records for bluebell (*Hyacinthoides non-scripta x hispanica = H. x massartiana*), one record for floating pennywort (*Hydrocotyle ranunculoides*), 10 records for orange balsam (*Impatiens capensis*), two records for least duckweed (*Lemna minuta*), four records for Parrot's-feather (*Myriophyllum aquaticum*), 14 records for green alkanet (*Pentaglottis sempervirens*), four records for cherry laurel (*Prunus laurocerasus*), six records for Turkey oak (*Quercus cerris*), 11 records for rhododendron (*Rhododendron ponticum*), 15 records for false-acacia (*Robinia pseudoacacia*), eight records for snowberry (*Symphoricarpos albus*), four records for water fern (*Azolla filiculoides*), two records for tree-of-heaven (*Ailanthus altissima*), one record for few-flowered garlic (*Allium paradoxum*), one record for ragweed (*Ambrosia artemisiifolia*), one record for Dartford cotoneaster (*Cotoneaster obtusus*), six records for Nuttall's waterweed (*Elodea nuttallii*), five records for goat's rue (*Galega officinalis*), four records for gallant soldier (*Galinsoga parviflora*), one record for shaggy soldier (*Galinsoga quadriradiata*), two records for giant hogweed (*Heracleum mantegazzianum*), three records for Himalayan balsam (*Impatiens glandulifera*), one record for small balsam (*Impatiens parviflora*), one record for American skunk-cabbage (*Lysichiton americanus*), two records for evergreen oak (*Quercus ilex*), two records for *Perfoliate Alexanders* and one record for Johnson-grass (*Sorghum halepense*).

3.10.2 Field Survey

The Site visit noted the following species listed under the LISI; green alkanet, buddleia and mahonia *sp.*

3.10.3 Assessment of Effects

Should the development remove these species, without appropriate removal methods these species could be spread to the wider environment.

3.10.4 Requirements

Clearance of the Site should be in conjunction with any other recommendations.

Any invasives removed as per best practice guidance for said species.

Landscape plans should avoid the inclusion of any species listed on Schedule 9 of WCA.

4 Enhancements for Biodiversity Net Gain Summary

As per the National Planning Policy Framework¹ all new developments are required to deliver a net gain in biodiversity. In order to achieve this, the mitigation measures described in the preceding sections as well as the biodiversity enhancements should be implemented.

A brief summary of the recommended biodiversity enhancements for the Site is detailed in Table 6, below. For more detail on these enhancements, including recommended specifications, please refer to the species-specific sections of this report. It is considered that these measures, undertaken in conjunction with the Requirements detailed within this report, will ensure that the development achieves a biodiversity net gain.

Table 6: Summary of Additional Biodiversity Enhancement Measures

Group or Habitat	Enhancement
Habitat	Proposed pond to be designed to best benefit wildlife with varying depths, access in and out and native aquatic planting. Proposed green roof to included species rich, pollinator friendly wildflower mix.
Bats	Landscape proposals should incorporate night scented plants or those species beneficial to bats A bat box to be mounted on retained willow tree.
Birds	Two hole fronted nest box to be installed on new dwelling or mounted on retained tree. Two starling nest boxes to be installed on new dwelling or mounted on retained tree.
Notable Flora & Fauna	A hedgehog house could be installed in a quiet area of the Site, such as within the retained trees to the west of the Site.

5 References

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Appendix 1: Proposed Site Plan

REVISIONS / NOTES:

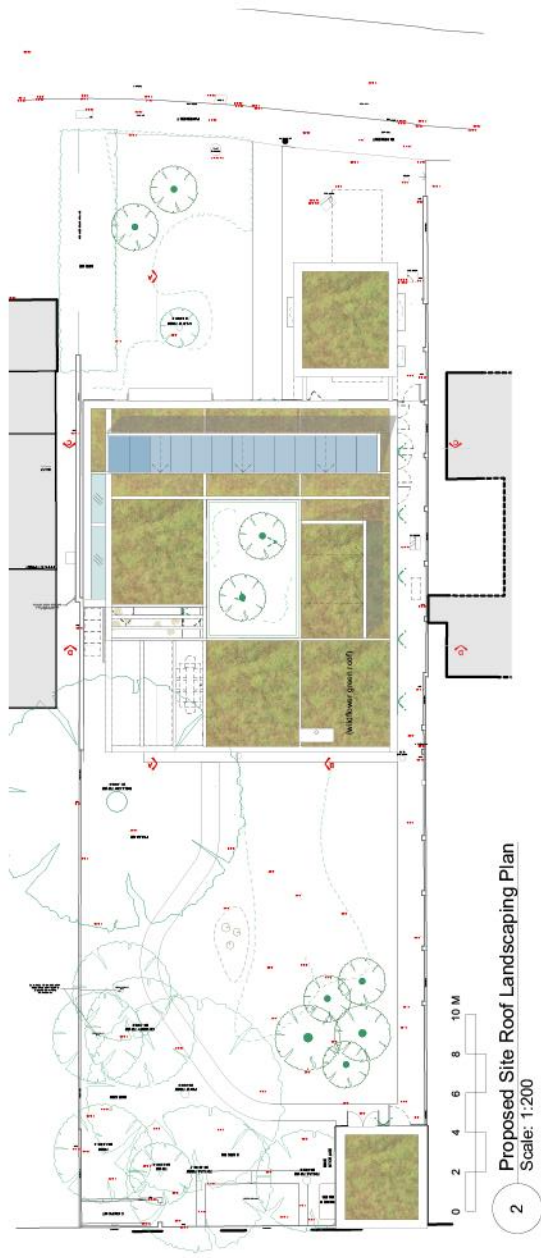
REV - 28.02.28 PLANNING

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PROPOSED LANDSCAPING PLAN 1200 @ A3
 GROUND & FIRST 1100 @ A1

DATE: 28.02.28

P.09



KEY:

- WILDLIFE OVER GREEN ROOF



KEY:

- BUILDING FOOTPRINT
- OTHER SURFACE (IMPERMEABLE)
- PERMEABLE SURFACE
- LAWN
- OTHER PLANTED SURFACES
- POND
- BOOMERANG PLANTING
- WILDLIFE OVER GREEN ROOF
- EDIBLE GARDEN PLANTING

Appendix 2: Site Photographs

Photo 1: Front of dwelling with vegetated garden (NE)



Photo 2: Front of dwelling/garage and paving slabs (NE)



Photo 3: Vegetated front lawn.



Photo 4: Example of vegetation growing up dwelling.



Photo 5: Rear view of the dwelling with garden (SE)



Photo 6: Vegetated garden (NW)



Photo 7: Shed in rear garden (SE)



Photo 8: Knot hole in willow tree.



Photo 9: Gap between bricks and roof on east aspect.



Photo 10: Crack between bricks and roof on east aspect.



Photo 11: Roof fall loft void with windows.



Photo 12: Roof fall loft void.



Photo 13: Roof fall loft void.



Photo 14: Garage loft void.



Photo 15: Garage loft void.



Appendix 3: Legislation

The following sections outline the legislation protecting each species or group of species where appropriate which have been considered as part of the preceding report.

Important notes:

- Practical Ecology Ltd's reports do **not** purport legal advice.
- The outline of legislation provided is not comprehensive and the original texts of the relevant legislation must be referred to for a full list of offences.

European Protected Species

Overview

The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats) was adopted in 1979. To implement the agreement, the European Community adopted the EC Habitats Directive.

The EC Habitats Directive has been written into UK law in the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). The Conservation of Habitats and Species Regulations 2017 (as amended) provides safeguards for European Protected Sites and Species (as listed in the Habitats Directive). This has recently been amended by the Conservation of Habitats and Species Regulations (amendments) (EU Exit) (2019) which continue the same provision for European protected species, licensing requirements and protected areas after the UK's exit from the European Union. In addition, the Countryside and Rights of Way Act 2000 strengthened the wildlife legislation in the UK. In relation to development, a person commits an offence regarding a species protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 (as amended) if they:

- Deliberately capture, injure or kill an EPS;
- Deliberately or recklessly disturb wild animals of any such species in such a way as to be likely to significantly affect;
 - The ability of any significant group of animals to survive, breed or rear or nurture their young;
 - The local distribution or abundance of that species.
- Damages or destroys a breeding site or resting place (even if unintentional or when the animal is not present);
- Intentionally or recklessly obstructs access to a structure or place used for protection or shelter; and
- This applies regardless of the life stage (i.e. eggs, young, adult).

The following sections outline the offences that can be committed against each species or group of species which are protected by European law and tranches of UK law which strengthen that protection.

Great Crested Newts (*Triturus cristatus*)

Great crested newts and their breeding sites (ponds) or resting places are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 (as amended) and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- intentionally or recklessly kill, injure or handle a great crested newt;
- to possess a great crested newt (whether live or dead);
- disturb a great crested newt – this includes in particular:
 - Any disturbance or obstruction which is likely to impair their ability to survive, breed or reproduce, or to rear or nurture their young; or
 - Any disturbance or obstruction that impairs their ability to hibernate or affecting their local distribution and abundance;
- sell or offer a great crested newt for sale without a licence.

It is also an offence to intentionally or recklessly damage, destroy or obstruct access to any place used by great crested newts for shelter, whether they are present or not.

Bats

All species of bat and their breeding sites or resting places (roosts) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 (as amended) and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- intentionally kill, injure or handle a bat;
- to possess a bat (whether live or dead);
- disturb a roosting bat; or
- sell or offer a bat for sale without a licence.

It is also an offence to intentionally or recklessly damage, destroy or obstruct access to any place used by bats for shelter, whether they are present or not.

A roost is defined as 'any structure or place which (a bat) uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time of the survey.

Otter (*Lutra lutra*)

Otters and their breeding sites (holts) or resting places are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 (as amended) and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- Deliberately or recklessly capture, kill, disturb or injure otters;
- Deliberately or recklessly damage or destroy a breeding or resting place;
- Deliberately or recklessly obstruct access to their resting or sheltering places; or
- possess, sell, control or transport live or dead otters, or parts of otters.

Common dormouse (*Muscardinus avellanarius*)

Common dormice and their breeding sites or resting places are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 (as amended) and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- Deliberately or recklessly capture, kill, disturb or injure common dormice;
- Deliberately or recklessly damage or destroy a breeding or resting place;
- Deliberately or recklessly disturb a common dormouse whilst in structure or place of shelter or protection;
- Deliberately or recklessly obstruct access to their resting or sheltering places; or
- possess, sell, control or transport live or dead common dormice, or parts of common dormice.

Other Species

Badgers (*Meles meles*)

Badgers are fully protected in the UK by the Protection of Badgers Act, 1992 and by Schedule 6 of the Wildlife and Countryside Act 1981 as amended. The Protection of Badgers Act 1992 was introduced in recognition of the additional threats that badgers face from illegal badger digging and baiting. Under the Act, it is an offence *inter alia* to:

- Wilfully kill, injure or take a badger, or to attempt to do so;
- Cruelly ill-treat a badger; or
- Intentionally or recklessly interfere with a badger sett by;
 - damaging a sett or any part of one;
 - destroying a sett;
 - obstructing access to or any entrance of a sett;
 - causing a dog to enter a sett; or
 - disturbing a badger when it is occupying a sett.

The purpose of this legislation is to ensure that badgers are humanely treated.

Water Vole (*Arvicola terrestris*)

Water vole and their breeding sites or resting places (burrows) are protected under Schedule 5 of the Wildlife and Countryside Act 1981. It is an offence to:

- Deliberately or recklessly capture, kill, disturb or injure water voles;
- Deliberately or recklessly damage or destroy a breeding or resting place;
- Deliberately or recklessly disturb a water vole whilst in structure or place of shelter or protection;
- Deliberately or recklessly obstruct access to their resting or sheltering places; or
- Possess, sell, control or transport live or dead water voles, or parts of water voles.

NB: In the case of water voles, a place of shelter or breeding or resting place is only likely to constitute an 'active' burrow.

Reptiles

All six of the UK's reptile species are protected under the Wildlife and Countryside Act 1981 (as amended).

Of the more common reptiles, it is illegal to intentionally kill or injure common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*), an adder (*Vipera berus*) and grass snake (*Natrix helvetica*).

White-Clawed Crayfish (*Austropotomobius pallipes*)

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- Take a white-clawed crayfish from the wild;
- Sell or offer the sale of a whole or any part of a white-clawed crayfish.

This applies to all life stages.

Birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built;
- intentionally take or destroy the nest or eggs of any wild bird. [Special penalties are liable for these offences involving birds listed on **Schedule 1**].

Birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) have an additional level of protection.

With regards to these species, it is an offence to deliberately or recklessly:

- disturb them whilst they are nesting, building a nest, in or near a nest that contains their young;
- disturb their dependent young.

Invasive Species

Certain species of plants and animals that do not naturally occur in Great Britain have become established in the wild and represent a threat to the natural fauna and flora. Section 14 of the Wildlife & Countryside Act 1981 (as amended) prohibits the release of any animal species that are 'not ordinarily resident or is not a regular visitor to Great Britain in a wild state'. Therefore, under Section 14 it is an offence to allow the establishment of plant species listed on Schedule 9 Part 2 in the wild.

Wild Mammals

Mammal species not of primary conservation concern do receive protection from unnecessary suffering through the Wild Mammals Protection Act (1996).