Preliminary Ecological Appraisal Report

Land Adjacent to Hill Cottage, Symonds Yat, Ross-on-Wye, HR9 6BL

Client	Mr and Mrs Young
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Smart Ecology Ltd. Registered in England and Wales: 10585124
Registered address: Bervar, Woodside, Woolaston, Lydney, GL15 6PB

info@smartecology.co.uk 01453 807188 www.smartecology.co.uk

Quality Assurance

	Name	Position	Date	Signature
Surveyor and Survey Date	Rachel Barber BSc, MSc, MCIEEM	Director/ Senior Ecologist	07/02/2024	[redacted]
Authored	Rachel Barber	Assistant Ecologist	14/02/2024	
Reviewed	Robert Dunn BSc, MSc, ACIEEM	Director/ Senior Ecologist	19/02/2024	
Approved	Rachel Barber	Director/ Senior Ecologist	20/02/2024	

Document History

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1	20/02/2024	Issued to the client.
2	29/02/2024	Amended following client comments.

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The summary of wildlife legislation provided is for general guidance only and does not in any way provide legal opinion or a definitive statement of the law. For detailed information, the legislation itself should be reviewed and a legal professional consulted.

Smart Ecology cannot be held liable for any information provided by third parties which is referenced within this document.

The evidence in this document is based upon the field survey(s) detailed. Due to the changing nature of ecology the list of species present cannot be considered comprehensive and Smart Ecology cannot guarantee that other protected/notable species and habitats are not present.

The ecology of a site is constantly changing and therefore the information provided in this document is only relevant at the time of survey. **If it has been over 12 months since this survey was undertaken advice should be sought on whether an updated survey is necessary.**

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

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Non-Technical Summary

Purpose of Report	Smart Ecology was commissioned by Mr and Mrs Young to undertake a Preliminary Ecological Appraisal of Land Adjacent to Hill Cottage, Symonds Yat, Ross-on-Wye. The purpose of the appraisal was to inform a planning application to Herefordshire Council for the erection of a residential property in the rear garden of an existing property (Hill Cottage).
Methodology	A desk study, UK Habitat Classification survey, and an assessment for legally protected, notable and invasive non-native species were undertaken.

Ecological Feature	**Potential Impacts without Mitigation** (refer to Section 5)	**Mitigation** (refer to Section 6.2)
River Wye SAC/SSSI/ LWS and Fish	Any pollution from drainage from the site could impact the River Wye.	A detailed drainage strategy is being prepared to ensure there are no foul or surface water flows to the River Wye.
Wye Valley and Forest of Dean Bat SAC / Bats	Artificial light spill upon the retained woodland areas or the woodland adjacent to the site greater than 0.5 lux or current baseline light levels could impact foraging and commuting bats, originating from the SAC and roosting bats if present. Potential for damage to retained tree with roosting suitability (TN1) during works.	No external lighting is proposed. Use of electrochromic glass on all glazing or integrated sensor blinds is proposed. This will need to be secured as a permanent measure. Protect retained trees during works.
Broadleaved and mixed woodland	Loss of a small area of woodland would reduce the biodiversity value of the site.	Protect retained trees during works. Implement a planting scheme and management plan to provide compensatory native shrub and tree planting and measures to enhance the retained woodland area.
Birds	Damage/destruction of active nests if trees/shrubs and scrub are removed, during the nesting season (which is typically March until the end of August	Removal of trees/shrubs and scrub must be undertaken outside of the nesting season (, or these must be checked for active nests by an ecologist immediately before removal. If active nests were present these would have to be left undisturbed until the young had fledged.
Hazel dormouse	Removal of the woodland area could kill or injure dormice, if present. Disturbance of dormice due to artificial light spill on retained woodland.	Implement RAMs during site clearance and construction to avoid injury/death (see Appendix 4). No external lighting is proposed. Use of electrochromic glass on all glazing or integrated sensor blinds is proposed. This will need to be secured as a permanent measure.
Badgers, otters and other mammals	Injury/death during site clearance and construction.	Implement RAMs during site clearance and construction to avoid injury/death (see Appendix 4).

Ecological Feature	Potential Impacts without Mitigation (refer to Section 5)	Mitigation (refer to Section 6.2)
Amphibians and reptiles	Injury/death during site clearance and construction.	Implement RAMs during site clearance and construction to avoid injury/death (see Appendix 4).
Invasive non-native species	If any construction works will impact the area of variegated yellow archangel this could lead to further spread across the site.	If any construction works will impact the area of variegated yellow archangel, then remove prior to works.

Conclusions	It is considered that the proposed development would not have any significant impacts on any other statutory or non-statutory designated sites, ecologically important or protected habitats or protected or notable species if the mitigation measures provided in this report are implemented.

Contents

1 Introduction

1.1 Background

1.1.1 Smart Ecology was commissioned by Mr and Mrs Young to undertake a Preliminary Ecological Appraisal of Land Adjacent to Hill Cottage, Symonds Yat, Ross-on-Wye, HR9 6BL (central national grid reference SO 55681 16275). Refer to Figure 1, Section 9 for a location map, which shows the survey area delimited by a red-line boundary (hereafter referred to as the "site").

1.1.2 The purpose of the appraisal was to inform a planning application to Herefordshire Council for the erection of a residential property in the rear garden of an existing property (Hill Cottage). Refer to Appendix 1 for the proposed site plan. Planning permission has previously been granted for a residential property in this location (P194424/F), this new application is for a larger dwelling in the same location.

1.1.3 This report has been prepared by Rachel Barber, director at Smart Ecology and a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM), with reference to CIEEM's Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017a), Guidelines for Ecological Report Writing (CIEEM, 2017b), and BS42020 Biodiversity – a code of practice for planners and developers (BSI, 2013).

1.2 Site Context

1.2.1 The site is approximately 0.1 ha and comprises an area of the garden of the adjacent residential property (Hill Cottage). The site contains areas of woodland, bramble scrub, modified grassland and hardstanding. Adjacent to the north, east and south of the site are residential properties with mature gardens, to the west is a single-track lane and then further residential properties with mature gardens and an area of broadleaved woodland. The wider landscape comprises further residential properties, extensive areas of woodland, and the River Wye approximately 60 m to the east.

1.3 Aims

1.3.1 The purpose of the survey and report was to:

- Identify any statutory[1] and non-statutory[2] designated sites on or close to the site.
- Provide an ecological baseline for the site including habitats[3] and the presence of, and potential for, legally protected[4], notable[5], and invasive non-native species.
- Identify any potential impacts on designated sites, habitats, and species.
- Provide details of further required surveys and/or mitigation.
- Provide recommendations for biodiversity enhancements.

[1] Statutory designated sites are those protected by legislation and include Ramsar, Special Protection Areas (SPA), Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), and Local Nature Reserves (LNR).
[2] Non-statutory designated sites are not afforded any legal (statutory) protection and are often designated by local authorities e.g. Local Wildlife Sites (LWS), County Wildlife Sites (CWS), and Key Wildlife Sites (KWS).
[3] Including priority habitats listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.
[4] Legally protected species include species afforded protection by the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended).
[5] Notable species include priority species listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, UK red data book species, and Birds of Conservation Concern (BoCC).

2 Legislation and Planning Policy

2.1 Legislation

2.1.1 Certain species and habitats are legally protected in the UK by legislation. The key pieces of legislation are:

- The Conservation of Habitats and Species Regulations 2017 (as amended).
- Wildlife and Countryside Act 1981 (as amended).
- Natural Environment and Rural Communities (NERC) Act 2006 (as amended).
- Protection of Badgers Act 1992.
- Wild Mammals (Protection) Act 1996.
- The Hedgerows Regulations 1997.
- The Environment Act 2021.

2.1.2 The implications of legislation with regard to species are provided in Table 2-1.

2.1.3 Only a brief summary of wildlife legislation is provided here for general guidance and should not be considered a definitive statement of the law. For detailed information the legislation itself should be consulted.

The Conservation of Habitats and Species Regulations 2017 (as amended)

2.1.4 These Regulations transpose the EU Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. The Regulations require the designation and protection of European Sites (Special Areas of Conservation (SAC) and Special Protection Areas (SPA) and the protection of European Protected Species (EPS).

2.1.5 A EPS mitigation licence is required if works affect EPS (e.g. bats) or their places of rest or breeding sites. EPS licences are issued by Natural England only after the following three tests have been satisfied:

- The proposed works must be for the purpose of preserving public health or safety or other imperative reasons of overriding public interest.
- There is no satisfactory alternative to the proposed works.
- The proposed works will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

2.1.6 It will be necessary to determine whether any European Sites or EPS may be impacted, either directly or indirectly, by the proposed development.

Wildlife and Countryside Act 1981 (as amended)

2.1.7 This Act implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Directive) and the EU Directive 79/409/EEC on the conservation of wild birds (Birds Directive).

2.1.8 The Act provides protection to a range of animal and plant species. It also requires sites with special wildlife or geological interest to be designated nationally as Sites of Special Scientific Interest (SSSI).

2.1.9 It will be necessary to consider whether the proposed development would have any direct or indirect impacts on any SSSI or species listed in relevant schedules of the Act.

Natural Environment and Rural Communities (NERC) Act 2006 (as amended)

2.1.10 Section 40 of this Act places a duty on local planning authorities to "*...consider what action the authority can properly take, consistently with the proper exercise of its functions, to further the general biodiversity objective*." The "general biodiversity objective" is the conservation and enhancement of biodiversity in England. Section 41 of the Act requires the Secretary of State to publish a list of species and habitats of principal importance to biodiversity (priority species and habitats). The local planning authority must 'have regard' to conserving these species and habitats when determining a planning application. The development would need to mitigate for any impacts on priority habitats and species.

2.1.11 The proposed development would need to mitigate for any impacts on priority habitats and species.

[redacted]

Wild Mammals (Protection) Act 1996

2.1.14 This Act makes it an offence to intentionally inflict unnecessary suffering on a wild mammal through mutilation, kicking, beating, nails, impaling, stabbing, burning, stoning, crushing, drowning, dragging, or asphyxiation.

2.1.15 Care would have to be taken during the construction phase of the proposed development to ensure that unnecessary suffering is not inflicted.

The Hedgerows Regulations 1997

2.1.16 These Regulations protect most hedgerows from removal unless permissioned by a local planning authority. They also provide historic and ecological criteria for defining important hedgerows. A local planning authority can only refuse permission to remove a hedgerow under the Hedgerows Regulations 1997 if a hedgerow is assessed to be important.

2.1.17 The proposed development should aim to retain and protect hedgerows and mitigate for impacts.

The Environment Act 2021

2.1.18 This Act sets statutory targets in four priority areas: biodiversity, air quality, water, and waste, and includes a new target to reverse the decline in species abundance by the end of 2030. The Act also makes provisions for a mandatory 10% net gain in biodiversity for all developments covered by the Town and Country Planning Act 1990; this is required for major developments and will come into force on 2nd April 2024 for minor developments.

Table 2-1: Implications of legislation with regard to species

Legislation	Species	Legal Implications
The Conservation of Habitats and Species Regulations 2017 (as amended)	• Bats • Hazel dormouse • Otter • Great crested newt	It is illegal to: • Deliberately capture, injure or kill these species. • Deliberately disturb[1] these species. • Damage or destroy a breeding site or resting place used by these species.
Wildlife and Countryside Act 1981 (as amended) – sub-sections 9(4) b and c and 9(5) only	• Bats • Hazel dormouse • Otter • Great crested newt	It is illegal to: • Intentionally or recklessly disturb these species while they are occupying a structure or place of shelter or protection. • Intentionally or recklessly obstruct access to a structure or place of shelter or protection.
Wildlife and Countryside Act 1981 (as amended)	• Birds	It is illegal to intentionally: • Kill, injure or take any wild bird. • Take, damage or destroy a wild bird's nest while it is in use or being built. • Take or destroy the eggs of any wild bird. There is additional protection for birds listed on Schedule 1 (S1) of the Act, which includes barn owls, whereby it is an offence to intentionally or recklessly disturb a S1 bird while building a nest or in or near a nest containing eggs or young, and disturb dependent young of a S1 bird.
Wildlife and Countryside Act 1981 (as amended)	• Water vole	It is illegal to: • Intentionally kill, take, or injure water voles. • Intentionally or recklessly damage or destroy a place of shelter or protection. • Intentionally or recklessly disturb water voles while they are occupying a structure or place of shelter or protection. • Intentionally or recklessly obstruct access to a structure or place of shelter or protection.
Wildlife and Countryside Act 1981 (as amended) – sub-sections 9(1) (partial) and 9(5) only	• Common reptile species	It is illegal to: • Intentionally or recklessly kill or injure common lizard, slow worm, grass snake, and adder.
NERC Act 2006	• Priority species	Local planning authorities must '*have regard*' to conserving priority species. Priority species include several bat and bird species, otter, hazel dormouse, water vole, hedgehog, brown hare, harvest mouse, polecat, common reptile species, great crested newt, and common toad.
Protection of Badgers Act 1992	• Badger	It is illegal to: • Wilfully capture, kill or injure a badger. • Damage, destroy or obstruct access to setts. • Disturb badgers in setts.

[1] Disturbance under the Conservation of Habitats and Species Regulations 2017 (as amended) is defined as impairing the ability of an animal to survive, breed, reproduce, rear or nurture their young, hibernate or migrate, or to significantly affect the local distribution or abundance of the species.

2.2 Planning Policy

National Planning Policy Framework (NPPF) 2023

2.2.1 Paragraph 180 states that planning decisions should protect sites of biodiversity value, minimise biodiversity impacts, and contribute to net biodiversity gains.

2.2.2 Paragraph 186 states that planning permission should be refused if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for.

2.2.3 The NPPF emphasises the need to consider biodiversity at a landscape scale, conserving, restoring and enhancing priority habitats and ecological networks, and protecting priority species. The NPPF also specifies the need to protect designated sites from adverse harm and to protect irreplaceable habitats (e.g. ancient woodland and veteran trees).

2.2.4 The proposed development would need to mitigate for impacts on biodiversity and provide net biodiversity gains where possible.

Local Planning Policy

2.2.5 The presence of EPS, including bats, is a material consideration in the planning process and local planning authorities will refuse planning permission where a EPS licence is unlikely to be granted and a criminal offence relating to an EPS is likely to result from a development.

2.2.6 The Herefordshire Local Plan Core Strategy (2011-2031) sets out policies for development and land use in the area. One policy is relevant to ecology and biodiversity at this site; see Table 2-2 for details. Refer to the original document for the full wording of this policy.

Table 2-2: Core Strategy policy with relevance to ecology and biodiversity

Policy	Details
Policy LD2 – Biodiversity and geodiversity	Development proposals should conserve, restore and enhance the biodiversity and geodiversity assets of Herefordshire, through the: 1. retention and protection of nature conservation sites and habitats, and important species in accordance with their status as follows: a) Development that is likely to harm sites and species of European Importance will not be permitted. b) Development that would be liable to harm Sites of Special Scientific Interest or nationally protected species will only be permitted if the conservation status of their habitat or important physical features can be protected by conditions or other material considerations are sufficient to outweigh nature conservation considerations. c) Development that would be liable to harm the nature conservation value of a site or species of local nature conservation interest will only be permitted if the importance of the development outweighs the local value of the site, habitat or physical feature that supports important species. d) Development that will potentially reduce the coherence and effectiveness of the ecological network of sites will only be permitted where adequate compensatory measures are brought forward. 2. restoration and enhancement of existing biodiversity and geodiversity features on site and connectivity to wider ecological networks; and 3. creation of new biodiversity features and wildlife habitats.

Policy	Details
	Where appropriate the council will work with developers to agree a management strategy to ensure the protection of, and prevention of adverse impacts on, biodiversity and geodiversity features.

3 Methodology

3.1 Desk Study

3.1.1 A search was conducted for existing information on:

- Statutory and non-statutory designated sites within 1 km of the site.
- SSSI, SAC, SPA, and Ramsar sites Impact Risk Zones.
- Bat SAC Consultation Zones.
- Mapped priority habitats and ancient woodlands within 100 m of the site.
- Protected and notable species within 1 km of the site.
- Invasive non-native species within 1 km of the site.
- Granted EPS mitigation licences within 1 km of the site.
- Great crested newts licence returns and pond survey results within 1 km of the site.
- Great Crested Newt Risk Zones.
- Waterbodies within 500 m of the site.

3.1.2 The following organisation, website, and document were consulted:

- Herefordshire Biological Records Centre (HBRC)[1].
- Multi-Agency Geographic Information Centre (MAGIC)[2].
- Wye Valley and Forest of Dean Bat SAC Development Management – Horseshoe Bat activity survey and assessment guidance (Forest of Dean District Council, 2021).

3.1.3 A previous preliminary ecological appraisal and bat survey report from 2019 was also reviewed (Ecological Services, 2019).

3.1.4 The search areas are considered sufficient to take into account ecological receptors which could potentially be impacted by the proposed development.

3.2 Field Survey

Personnel

3.2.1 The field survey was carried out by Rachel Barber; see Table 3-1 for details of the surveyor's experience and qualifications.

[1] Data provided December 2023.
[2] https://magic.defra.gov.uk/MagicMap.aspx (accessed February 2024).

Table 3-1: Surveyor information

Surveyor	Natural England Survey Licences	Qualifications/Experience
Rachel Barber BSc, MSc, MCIEEM	Bats level 2 (2016-25176) Great crested newt level 1 (2015-11117) Hazel dormouse level 1 (2016-26826)	Eleven years' experience in ecological consultancy. MSc Ecology and Management of the Natural Environment (University of Bristol - Distinction). MSc Environmental Monitoring, Modelling and Management (Kings College, London - Distinction). BSc Geography (University of Southampton – 2:1).

Survey Weather Conditions

3.2.2 The survey was undertaken on the 7th of February 2024. See Table 3-2 for details of weather conditions during the survey.

Table 3-2: Survey weather conditions

Variable	Weather Conditions
Cloud cover	100 %
Temperature	4°C
Wind	Light breeze (BWS 2)
Precipitation	None

UK Habitat Classification and Species Survey

3.2.3 A walkover of the site was undertaken to map the habitats present. The habitats were mapped and classified using the UK Habitats Classification system with a minimum mapping unit of 25 m^2 (UKHab, 2023). Additionally, any priority habitats within the site were identified and habitats assessed for evidence of, and potential to support, legally protected, notable and invasive non-native species. Any evidence of, and potential for, such species was recorded. Target Notes (TN) were made for any evidence of, or features with particular suitability for legally protected, notable and invasive non-native species; these are provided in Appendix 2 and plotted on the UK Habitats Classification Plan (Figure 2, Section 9).

3.2.4 Specifically, the site was surveyed for evidence of, and potential for, the species/groups detailed in Table 3-3:

Table 3-3: Typical habitat requirements and field signs for surveyed species/groups

Species/ Group	Typical Habitat Requirements	Field Signs
Bats	Roost in buildings, trees, other structures, and underground sites. Foraging and commuting habitat include watercourses, waterbodies, hedgerows, tree-lines, scrub, woodland, pasture, and meadows.	Direct sighting, carcasses, droppings, urine, grease marks, feeding remains, squeaking.

Species/ Group	Typical Habitat Requirements	Field Signs
Birds	Woodland, trees, scrub, hedgerows, moorland, heathland, wetlands, cavities within buildings, waterbodies, grassland.	Direct sightings, nests, droppings, feathers, eggs.
Badger	Woodland, dense scrub, hedgerows, moorland, grassland, field edges.	Direct sightings, setts, hair, footprints, dung, latrine pits, paths.
Hazel dormouse	Deciduous and mixed woodland (especially coppice managed with a successional stage of vegetation). Also hedgerows, conifer plantations, and dense scrub.	Direct sighting, nests, gnawed nuts.
Otter	Holts in tree cavities, roots, rabbit burrows and bank-side rocks. Rivers, wetland, wet ditches, drains, ponds, lakes, coastal and marshland.	Direct sightings, anal jelly, spraint (dung), footprints, paths/tracks through vegetation, feeding remains, slides into and out of the water, couches (above ground resting places), holt entrances (below ground shelters).
Water vole	Vegetated banks on slow moving watercourses, reed beds, ponds, lakes, marshland, upland.	Direct sightings, latrines, droppings, feeding stations, burrows, feeding remains, lawns, nests, footprints.
Brown hare	Open farmland, grassland, woodland edges. Favours a mosaic of arable (cereal crops), grassland (with long areas for shelter) and hedgerows. Hare forms (resting places) may be in a grass tussock or behind a rock to give some protection. Hayfields provide better habitat than silage grassland as leverets are vulnerable to earlier cutting.	Direct sightings, footprints, droppings, forms, paths (tracks),
Hedgehog	Grassland, heathland, moorland, farmland, woodland, gardens	Direct sightings, footprints, droppings.
Polecat	Woodland, riverbank, marsh and farmland with hedgerows and small woods. Generalist species with wide ranges. Feed on rabbits, small rodents, birds, insects, frogs when gathered to spawn in the spring. Dens often in rabbit burrows in summer and move to farmyards (hay bales, under sheds, rubbish tips) in winter.	Direct sightings, footprints, droppings.
Harvest mouse	Long tussocky grassland, cereals, roadside verges, reedbeds, hedgerows, farmland and around woodland edges. Feed on seeds, berries, insects, cereal grains, also moss, roots and fungi. Nests found in dense vegetation (grasses, rushes, cereals, grassy hedgerows, ditches and brambles).	Direct sighting, nests.

Species/ Group	Typical Habitat Requirements	Field Signs
Amphibians	Waterbodies for breeding. Terrestrial habitat includes most semi-natural environments including rough grassland, marsh, scrub, woodland, hedgerows, brownfield and low-intensity farmland. Tree stumps, mammal burrows, stone piles, log piles, compost heaps for shelter and hibernation.	Direct sightings, eggs attached to vegetation in waterbodies.
Reptiles	Mosaic of habitats with potential for shelter and basking including rough grassland, scattered scrub, hedgerows, heathland, moorland, woodland glades, wetland, gardens and brownfield. Tree stumps, mammal burrows, stone piles, log piles, compost heaps for shelter and hibernation.	Direct sightings, sloughed skin.
Invertebrates	Diverse range of habitats including mature trees, deadwood, flower-rich grassland, tussocky grassland, waterbodies, wetlands, scrub, hedgerows and brownfield sites.	Direct sightings.
Fish	Running and standing water.	Direct sightings.
Plants	Waterbodies, woodland, grassland, hedgerow bases.	Direct sightings.
Invasive non-native species	All habitats.	Direct sightings.

3.2.5 An assessment was made of the likelihood that the protected, notable, and invasive non-native species/groups detailed in Table 3-3 occur on or close to the site with reference to the criteria provided in Table 3-4.

Table 3-4: Criteria for the assessment for the presence of species/groups

Likelihood of Occurrence	Assessment Criteria
Confirmed	Field signs and/or records confirm the presence of species/group.
High	Presence of species concerned not confirmed by field signs or records, but high quality suitable habitat present on site and connected to further suitable habitat AND/OR field signs present indicative of presence of species but presence not definitely proven. Site within known geographic distribution for the species/group.
Moderate	Presence of species concerned not confirmed by field signs or records, but moderate quality suitable habitat present on the site and some connectivity to further moderate or high quality suitable habitat in the wider landscape. Site within known geographic distribution for the species/group.

Likelihood of Occurrence	Assessment Criteria
Low	Presence of species concerned not confirmed by field signs or records. Low quality suitable habitat on the site AND/OR poor connectivity to further suitable habitat in the local landscape. However, possible presence of the species/group cannot be completely discounted. Site within known geographic distribution for the species/group.
Negligible	No field signs and/or records of species. No suitable habitat present on or close to the site. Site not within known geographic distribution for the species/group.

3.2.6 The survey included ground level tree assessments of on-site trees proposed for removal, as follows.

Ground Level Tree Assessment

3.2.7 Accessible on-site trees were inspected for potential bat roost features. Trees within dense areas of foliage/woodland were not surveyed. Accessible trees were viewed from ground level using a high-powered torch (Clulite 1 million candle power), close focusing (8.5 x 21) binoculars, and an endoscope to inspect accessible cavities. Trees were viewed from all angles and any potential roost features (e.g. woodpecker holes, rot holes, hazard beams etc.) or evidence of bats (e.g. droppings, odour, staining etc.) were noted.

3.2.8 An assessment was then made of the suitability of any potential roost features (PRFs) noted with reference to the BCT good practice guidelines (Collins, 2023); see Table 3-5.

Table 3-5: Potential Roost Feature (PRF) suitability categorisation

Likelihood of Occurrence	Assessment Criteria
PRF-L	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

3.3 Evaluation of Ecological Features

3.3.1 A valuation of ecological features (designated sites, species, and habitats) was undertaken in accordance with CIEEM guidance (CIEEM, 2022). Valuation is determined using the geographic framework provided in Table 3-6.

3.3.2 The value of an ecological feature is based on a professional ecologist's judgement and takes into consideration various characteristics including any site designations, species records, priority species and habitats, species rarity, the quality of the resources (e.g. habitat diversity, species population size), and location within the landscape context.

3.3.3 Sometimes it is not possible to provide a valuation of ecological features in the absence of data, which would have to be provided by further ecological surveys. Important ecological features, which may pose a constraint to the proposed development, are those with an ecological value which could be impacted by the development. These are the features which may require further survey work and mitigation.

Table 3-6: Framework for assessing the value of ecological features

Geographic Scale	Example of Ecological Feature
International **(most important)**	An internationally designated site e.g. Special Areas of Conservation (SAC), Special Protection Area (SPA), Ramsar sites. Regularly occurring populations of internationally important species.
National	Site of national importance e.g. Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR). Regularly occurring populations of nationally important species.
Regional	Non-statutory site e.g. Local Wildlife Site (LWS), Key Wildlife Site (KWS), Country Wildlife Site (CWS) supporting a regionally significant area of priority habitat or regionally significant population of legally protected/priority species.
County	Non-statutory site e.g. Local Wildlife Site (LWS), Key Wildlife Site (KWS), Country Wildlife Site (CWS), ancient woodland, site supporting priority habitats, priority species, and/or legally protected species of significance for the county.
Local	Habitats which enhance the local habitat resource e.g. old species-rich hedgerow, deciduous woodland, pond, small areas of priority habitat or areas supporting small populations of legally protected/priority species which are not rare within the region, county, or nationally.
Site	Habitats of limited ecological importance e.g. scattered trees, hedgerows, woodland plantations, small areas of non-priority habitats that are of value for wildlife. Species of limited ecological importance.
Negligible **(least important)**	Hardstanding, bare ground, built environment, and other areas with negligible biodiversity value, including for priority and legally protected species.

3.4 Limitations

3.4.1 Many of the species records provided by HBRC were at low spatial resolution and therefore the precise location of these records could not be determined, although they still provide background information on species present in the local area. Additionally, it must be noted that the accuracy of these records (e.g. correct species identification) has not been independently verified, and that an absence of records does not necessarily mean that a species is not present within the search area.

3.4.2 The survey was undertaken during the winter when many plant species may not be apparent. However, it was still possible to identify the broad habitat types present and therefore the timing of the survey is not considered to be a significant limitation to the survey.

3.4.3 Due to the timing of the survey invasive non-native plants may not have been apparent. Therefore, the absence of invasive non-native plant species should not be assumed even if these species were not recorded during the survey, and the client should remain aware of the possibility that invasive non-native plant species could occur on the site. Additionally, an invasive non-native plant (variegated yellow archangel) was noted during the survey.

3.4.4 The survey was carried out at a time of year when many faunal species are unlikely to be active and therefore field signs for many species would not have been apparent. However, it was still possible to assess the suitability of habitats for these species and therefore the timing of the survey is not considered to be a significant limitation to the survey.

3.4.5 Trees within the woodland area to the north of the site were not accessible for survey for bat roost potential as they were surrounded by obstructing vegetation. This is not considered to be a

significant limitation as the habitat offers potential for foraging and commuting bats and therefore precautionary mitigation has been proposed to ensure that this area is not impacted by the proposals.

3.4.6 The survey was carried out outside of the bird breeding season and therefore nesting activity would not have been apparent. Additionally, nests are often hidden away in areas that are not viewable. However, it was still possible to identify any visible evidence of old nests and features with potential for use by nesting birds.

4 Baseline Ecological Conditions

4.1 Desk Study

Statutory Designated Sites

4.1.1 Refer to Table 4-1 for details of statutory designated sites located within 1 km of the site.

Table 4-1: Statutory designated sites within 1 km

Site Name	Approximate Distance from Site (m)	Description
River Wye SAC and SSSI	60	Linear river ecosystem which acts as an important wildlife corridor. The bankside tree cover provides valuable feeding and roosting habitats for several bat species including the greater horseshoe and Daubenton's bat.
Upper Wye Gorge SSSI	240	One of the most extensive blocks of semi-natural broadleaved woodland in the whole of the Wye Valley.
Wye Valley Woodlands SAC	240	Designated for its woodland habitats. Lesser horseshoe bat is also present as a qualifying feature.
Great Doward SSSI	797	Limestone grassland with associated scrub and woodland.

SSSI, SAC, SPA, and Ramsar Sites Impact Risk Zones

4.1.2 The site is situated in a location with the following relevant risk category for the River Wye SAC and SSSI:

All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.

Bat SAC Consultation Zone

4.1.1 The site is located within a lesser horseshoe breeding sites 1 km buffer, a lesser horseshoe 1 km maternity buffer and a horseshoe bat 3 km hibernation sites buffer for the Wye Valley and Forest of Dean Bat SAC. As the development is within 250 m of a woodland copse the site is classed as a very sensitive location (A) (Forest of Dean District Council, 2021).

Non-Statutory Designated Sites

4.1.2 Refer to Table 4-2 for details of non-statutory designated sites located within 1 km of the site. The closest non-statutory designated site is the River Wye LWS located approximately 60 m to the east.

Table 4-2: Non-statutory designated sites within 1 km

Site Name	Description
Leeping Stocks Herefordshire Wildlife Trust Reserve	A reserve with a wide variety of trees, other flowering plants and associated animal life.
King Arthurs Cave Herefordshire Wildlife Trust Reserve	This reserve holds a rich flora that has regenerated on the site of old quarry workings and a number of small caves that provide a refuge for Horseshoe Bats and special invertebrates such as the Cave Spider and hibernating Herald Moths.
White Rocks Herefordshire Wildlife Trust Reserve	A reserve with a rich mosaic of habitats with an accompanying diversity of wildlife.
Miners Rest Herefordshire Wildlife Trust Reserve	A mixed deciduous woodland containing some old Beech with some open rides and coppiced clearings.
Woodside Herefordshire Wildlife Trust Reserve	Ancient woodland site beside a small flower-rich field.
Mount Wood Herefordshire Wildlife Trust Reserve	Ancient woodland.
Lower Wood Herefordshire Wildlife Trust Reserve	A woodland reserve dominated by various species.
The Doward and Huntsham Hill SWS	The site lies between two meanders of the River Wye and comprises a spectacular gorge cut by the river and extensive blocks of semi-natural woodland with other habitats such as woodland streams, small areas of limestone grassland and rocky outcrops.
River Wye LWS	The River Wye is one of the most celebrated and lovely rivers in Britain. From a nature conservation point of view, its national importance can be judged from the fact that it is one of the largest, relatively unpolluted, unmodified river systems in the country

Mapped Priority Habitats and Ancient Woodlands

4.1.3 Refer to Table 4-3 for details of priority habitat and ancient woodland records within 100 m of the site.

Table 4-3: Priority habitat and ancient woodland records within 100 m

Priority Habitat and Ancient Woodlands	Details
Broadleaved deciduous woodland	Several mapped areas within 100 m, closest adjacent to the south-western corner of the site boundary.
Ancient woodland	None within 100 m.

Species Records

4.1.4 Species records provided by HBRC are summarised in Table 4-4.

Table 4-4: Summary of desk study species records

Group	Species	Number of Records	Closest Record (m)	Additional Information
Bats	Unidentified	10	192.89 (+/- 1 m)	
	Barbastelle	6	593.24 (+/- 100m)	
	Brown Long-eared Bat	9	536.87 (+/- 100m)	Including roosts within 1 km
	Common Pipistrelle	17	466.30 (+/- 100m)	Including roosts within 1 km
	Daubenton's Bat	7	658.08 (+/- 100m)	Including roosts within 1 km
	Greater Horseshoe Bat	71	558.09 (+/- 100m)	Including roosts within 1 km
	Lesser Horseshoe Bat	146	558.09 (+/- 100m)	Including roosts within 1 km
	Long-eared Bat species	16	658.08 (+/- 100m)	Including roosts within 1 km
	Natterer's Bat	6	658.08 (+/- 100m)	Including roosts within 1 km
	Noctule	17	466.30 (+/- 100m)	Including roosts within 1 km
	Pipistrelle	12	536.87 (+/- 100m)	Including roosts within 1 km
	Serotine	10	593.24 (+/- 100m)	
	Soprano Pipistrelle	51	494.79 (+/- 100m)	
	Whiskered Bat	3	678.53 (+/- 10 m)	
Birds	54 species	140	Closet record of a kingfisher approximately 297.72 (+/- 100m).	
Mammals	[redacted]			
	Brown Hare	1	950.44 (+/- 1km)	
	Fallow Deer	2	954.53 (+/- 100m)	
	Harvest Mouse	1	297.72 (+/- 100m)	
	Hazel Dormouse	75	494.79 (+/- 100m)	
	Hedgehog	1	839.52 (+/- 100m)	
	Otter	1	785.99 (+/- 100m)	
	Stoat	1	950.44 (+/- 1km)	
	Water Vole	2	399.45 (+/- 1km)	
Reptiles	Slow-worm	18	649.97 (+/- 100m)	

Group	Species	Number of Records	Closest Record (m)	Additional Information
Invertebrates	82 species	251	Closest record of the pretender approximately 178.78 (+/- 100m)	
Plants	69 species	322	Closest records of common spotted orchid and wood spurge approximately 150.08 (+/- 100m)	
Crustacean	White-clawed Freshwater Crayfish	1	785.99 (+/- 100m)	
Invasive Non-native Species	Canada Goose	1	718.08 (+/- 1km)	

Granted EPS Mitigation Licences

4.1.5 There are no records of granted EPS mitigation licences within 1 km of the site.

Great Crested Newt Licence Returns and Pond Survey Results

4.1.6 There are no records of great crested newt licence returns or pond survey results within 1 km of the site.

Waterbodies

4.1.7 Two waterbodies were identified within 500 m of the site. Refer to Table 4-5 for the distances of these waterbodies from the site, and to Figure 3, Section 9 for a map showing the location of these waterbodies.

Table 4-5: Waterbodies within 500 m

Waterbody	Approximate Distance from Site (m)
1	460
2	472

4.2 Field Survey – Habitats

4.2.1 The location and extent of habitats on the site are shown on the UK Habitats Classification Plan; see Figure 2, Section 9.

Bramble Scrub h3d

Photo 1

Photo 2

4.2.2 A small area of scrub was present at the edge of scattered trees (Photo 1) in the south of the site, dominated by bramble with hart's-tongue fern, pendulous sedge, male fern, hazel saplings, beech sapling and a small laurel (non-native) also present.

4.2.3 Another small area of bramble scrub was present towards the end of a bank which separated the grassed area from scattered trees (Photo 2). This was dominated by bramble with pendulous sedge, hart's-tongue fern, ivy and St John's wort shrub also present.

Broadleaved and Mixed Woodland w1 523 (non-native), 828 (vegetated garden)

4.2.4 The northern part of the site contained an area of woodland which was part of the garden of Hill Cottage. Trees mainly comprised yew with a sparse shrub layer of hazel, holly, cherry laurel (non-native), beech and sycamore. The ground flora comprised bramble, lords-and-ladies, umbellifer sp., lesser celandine, primrose, tufted hair-grass, pendulous sedge, barren strawberry, hart's-tongue fern, male fern, and ivy. A small area to the east of the woodland area had been cleared, there were no large trees in this area just scrub understorey.

Broadleaved and Mixed Woodland w1 510 (bare ground), 523 (non-native), 828 (vegetated garden)

4.2.5 To the south of the site was an area with native and non-native scattered tree species including western red cedar, field maple, larch, deodar cedar, rowan (standing dead wood), Japanese maple, silver fir, goat willow, Pride of India and downy Japanese maple.

4.2.6 Beneath the trees the vegetation was sparse with species present including lesser celandine, lords-and-ladies, ivy, wood avens, false brome, hart's-tongue fern, ground ivy, herb Robert and primrose.

4.2.7 At the eastern edge of the small, wooded area was a bank with a line of young multi-stem sycamores along the top. The ground flora here comprised hart's-tongue fern, male fern, dog's-mercury, barren strawberry, ivy and pendulous sedge.

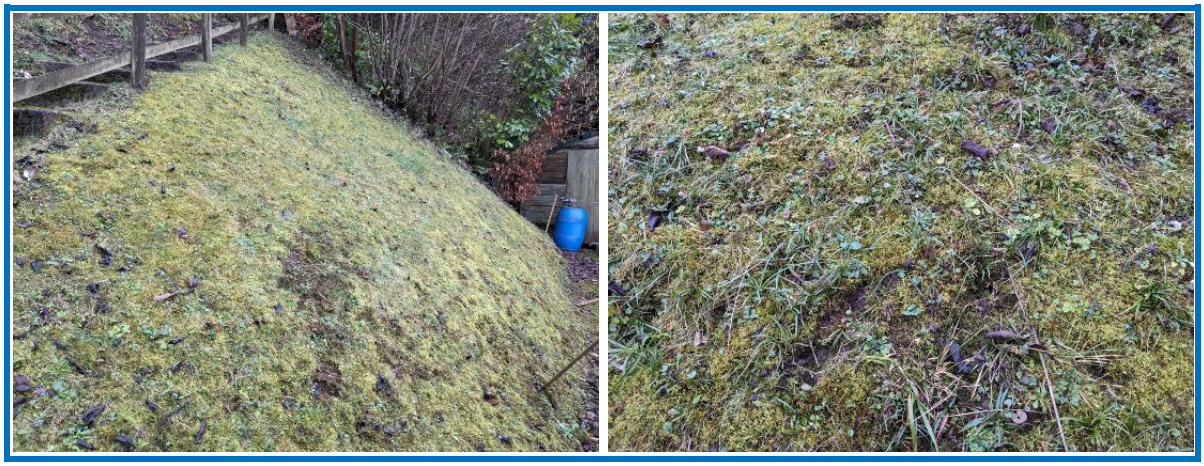
Developed Land; Sealed Surface u1b

4.2.8 Several areas of hardstanding were present within the site including a tarmac driveway and concrete pathways throughout the garden.

Modified Grassland g4 106 (mown), 828 (vegetated garden)

4.2.9 An area of very short grassland was present to the east and south of the site. Grass species present included cock's-foot, red fescue and annual meadow-grass. Forb species present included dandelion ag., lesser celandine, primrose, lords-and-ladies, common daisy, snowdrop, creeping buttercup, meadow buttercup and barren strawberry.

Modified Grassland g4 129 (wet moss lawns), 828 (vegetated garden)



4.2.10 To the north of the site was an area of grassland on a steep bank. This area mainly comprised moss species, with field wood-rush., lesser celandine, common self-heal, hedge bedstraw. and primrose also present.

4.3 Field Survey – Species

4.3.1 Table 4-6 provides details of an assessment of the suitability of habitats on and close to the site for protected, notable, and invasive non-native species/groups, details of any evidence of these species/groups, and an assessment of the likelihood that these species/groups occur on or close to the site.

Table 4-6: Site suitability for protected and notable species/groups and invasive non-native species

Species/ Group	Habitat Assessment	Evidence	Likelihood of Presence/Occurrence
Bats (foraging and commuting)	The small woodland copses within the garden provided small areas of suitable foraging and commuting habitat as they connected to further trees/woodland in the wider landscape. The site is connected via tree lines to the River Wye SAC and SSSI which provides bankside tree cover for foraging bats.	N/A	**HIGH** Records of numerous bat species within 1 km of the site, including barbastelle and greater and lesser horseshoe bats. Previous bat surveys undertaken in 2019 identified low levels of bat activity on the site. Activity included noctule, soprano and common pipistrelles, *Myotis* species, lesser horseshoe and greater horseshoe (Ecological Services., 2019). The site is defined as a very sensitive location (A) for the Wye Valley and Forest of Dean Bat SAC. It is very likely that bats (including horseshoe species) forage and commute through the site.
Bats (roosting)	Trees within the northern woodland area to the east of the garden path may contain potential roost features, these were not surveyed in detail due to obstructing vegetation (see Limitations, Section 3.4). Scattered trees within the small woodland area to the south of the site were surveyed for potential roost features, with only one tree, a deodar cedar, containing any roost features (TN1). The PRF in this tree was assessed as PRF-L; see Appendix 3 for results.	None	**MODERATE** Records of numerous bat species within 1 km of the site, including barbastelle and greater and lesser horseshoe. It is possible that bats may roost in trees in the woodland area to the north of the site.

Species/ Group	Habitat Assessment	Evidence	Likelihood of Presence/Occurrence
Birds	The site provided suitable foraging habitat for a range of common species. Potential for nesting in woodland and scrub.	None	**MODERATE** Multiple records provided within 1 km of the site. Suitable foraging and nesting habitat present on the site, likely to be used by common species.
[redacted]			
Hazel dormouse	The woodland areas and scrub provided a small area of suboptimal habitat for dormice. The woodland areas were considered suboptimal as the growth was quite sparse, not dense and shrubby which is optimal for dormice. However, these habitats are connected to further larger areas of woodland where hazel dormice have previously been recorded and therefore dormice may disperse through them.	None	**MODERATE** 75 records within 1 km of the site, closest approximately 494.79 (+/- 100 m). Small area of sub-optimal habitat within the site, however connected to larger areas of woodland with known dormouse populations and therefore dormice may disperse through the site.
Otter	Otters may use woodlands close to watercourses and the River Wye is approximately 60 m from the site and is known to support otters. However, the woodland areas within the site are part of a maintained garden and it is considered unlikely that they are used by otters.	None	**LOW** One record approximately 785.99 (+/- 100 m) from the site. Use of woodland habitats on the site possible, but considered unlikely.
Water vole	No suitable habitat on the site.	None	**NEGLIGIBLE** Two records within 1 km of the site, closest approximately 399.45 (+/- 1km). No suitable habitat on site.

Species/ Group	Habitat Assessment	Evidence	Likelihood of Presence/Occurrence
Other mammals	Suitable foraging, dispersal and refuge habitat within and adjacent to the site for hedgehog and polecat. Rabbits present which are a food source for polecat. Deer droppings also noted within the site.	Rabbit droppings (TN2) and deer droppings (TN3).	**MODERATE** One record of brown hare approximately 950.44 (+/- 1 km) from the site. Two records of fallow deer within 1 km of the site, closest approximately 954.53 (+/- 100 m). One record of harvest mouse approximately 297.72 (+/- 100 m) from the site. One record of hedgehog approximately 839.52 (+/- 100 m) from the site. One record of stoat approximately 950.44 (+/- 1 km) from the site. Suitable habitat within and adjacent to the site for a range of mammal species. Rabbit and deer presence confirmed
Amphibians	Two waterbodies are mapped within 500 m of the site, closest approximately 460 m from the site boundary. The woodland and scrub habitats provided suitability for foraging, dispersal, refuge and brumation (hibernation). The short grassland areas provided low suitability for amphibians; however, they could be used occasionally for foraging.	None	**HIGH** No records within 1 km of the site. Likely use of woodland areas for foraging, dispersal, refuge and brumation by amphibian species. It is considered unlikely that great crested newts would be present on the site as most adults stay within 250 m of breeding ponds and further from a breeding pond the number of individuals decreases (Langton, et al., 2001). As all mapped waterbodies are over 250 m and within highly suitable terrestrial habitat (woodland) it is considered unlikely that great crested newts would disperse as far as the site.
Reptiles	The on-site habitats provided a mosaic of woodland, scrub and short grassland providing suitability for reptiles to forage and bask. The woodland areas also provided suitability for refuge and brumation.	None	**HIGH** One record of slow-worm approximately 649.97 (+/- 100 m) from the site. Likely use of habitats by common reptile species.

Species/ Group	Habitat Assessment	Evidence	Likelihood of Presence/Occurrence
Invertebrates	The habitats within the site could support a range of invertebrate species, although these are small areas of common habitats.	None	**MODERATE** Numerous records within 1 km of the site. Habitats within the site are likely to be used by a range of common invertebrate species.
Fish	No suitable habitat on the site. River Wye is approximately 60 m from the site.	None	**NEGLIGIBLE (on-site)** **HIGH (River Wye)** No records within 1 km of the site. No suitable habitat on site. Nearby River Wye designated for supporting a range of fish species.
Plants	On-site habitats provided negligible potential for rare or notable species to be present.	None	**NEGLIGIBLE** Numerous records within 1 km of the site. Maintained garden habitats provided negligible potential for rare or notable species.
Invasive non-native species	Garden habitats which could contain invasive non-native species.	Variegated yellow archangel noted (TN4)	**CONFIRMED** One record of Canada goose approximately 718.08 (+/- 1 km) from the site. Variegated yellow archangel present, this is however a common garden plant and the site comprises the curtilage of a residential property.

5 Ecological Constraints

5.1 Development Proposals

5.1.1 It is proposed to erect a residential property on the site. The footprint of the proposed property is approximately 162 m^2. A turning area, pollination garden and pond with raised decking are also proposed. The proposed development would result in the loss of approximately:

- 25 m^2 of the northern area of woodland, this area is very sparse and this equates to two to three coppice stools.
- 45 m^2 of bramble scrub.
- 60 m^2 of sparsely vegetated ground beneath scattered trees in the southern woodland area.
- Six trees (a dead rowan, Japanese maple, silver fir and three goat willows).
- 22 m^2 of modified grassland and additional small areas for the pollination garden areas.

5.1.2 According to the arboricultural report it is also proposed to remove one sycamore in poor condition, although this is not needed to facilitate the development.

5.2 Great Crested Newt Rapid Risk Assessment

5.2.1 A Natural England Rapid Risk Assessment (RRA) was undertaken (see Figure 5-1), which is an assessment of the likelihood that the proposed development would result in an offence with respect to great crested newts. This RRA assumes that great crested newts are present within the two waterbodies identified within 500 m of the site and that 0.016 ha of suitable terrestrial vegetation is cleared. It is also assumed that precautionary methods of working would be implemented during site clearance and works to avoid impacts on individual great crested newts. This RRA indicates that it is highly unlikely that the proposed development would result in an offence being committed with respect to great crested newts.

Component	Likely effect	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100 m of any breeding pond(s)	No effect	0
Land 100 - 250m from any breeding pond(s)	No effect	0
Land >250 m from any breeding pond(s)	0.01 – 0.1 ha lost or damaged	0.001
Individual great crested newts	No effect	0
	Maximum:	0.001
Rapid Risk Assessment result:	**GREEN: OFFENCE HIGHLY UNLIKELY**	

Figure 5-1: Rapid Risk Assessment (Natural England, 2015)

5.3 Evaluation of Potential Impacts

5.3.1 Statutory and non-statutory designated sites, protected and ecologically valuable habitats, and protected and notable species may pose a constraint if there is potential for them to be impacted by a proposed development. Invasive non-native species may also pose a constraint to development, and provide opportunities to enhance the biodiversity value of a site by their removal or control.

5.3.2 Table 5-1 provides a valuation of features on and close to the site which could be impacted by the proposed development, justification for the valuation, and details of potential impacts upon these features in the absence of mitigation. Only species which were present or assessed to have potential to be present on or close to the site are included in the valuation. Features highlighted in blue have the potential to pose a constraint to the proposed development of the site and would require further surveys and/or mitigation (see Section 6).

Table 5-1: Valuation and potential impacts on ecological features

Ecological Feature	Value	Justification for Value	Potential Impacts Without Mitigation
River Wye SAC/SSSI/LWS and Fish	International/ National/ County	Site of international and national importance for biodiversity.	Any pollution from drainage from the site could impact upon the River Wye.
Wye Valley and Forest of Dean Bat SAC/Bats (foraging and commuting)	International/ National	Sites of international and national importance for their bat populations.	Loss of small areas of habitat from a garden environment is considered unlikely to have a significant impact on the foraging resource of bats originating from the SAC, with extensive areas of similar habitat in the local landscape. Loss of the small area of woodland would not impact connectivity, with further connectivity provided by surrounding woodland and tree lines.
			The site is located in a lesser horseshoe breeding sites 1 km buffer, a lesser horseshoe 1 km maternity buffer and a horseshoe bat 3 km hibernation sites buffer for the Wye Valley and Forest of Dean Bat SAC, meaning that lesser and greater horseshoe bats may travel as far as the site as their core sustenance zones are 2 km and 3 km respectively (Collins, 2023). Therefore, any artificial light spill upon the retained woodland areas or woodland adjacent to the site greater than 0.5 lux or current baseline light levels could impact foraging and commuting bats, originating from the SAC.

Ecological Feature	Value	Justification for Value	Potential Impacts Without Mitigation
Other statutory designated site	International/ National	Sites of international and national importance for biodiversity.	No impacts on other statutory sites are anticipated due to their distance from the site (over 240 m) and the small scale of the development.
Other non-statutory designated site	County	Sites of county importance for biodiversity.	No impacts are anticipated due to the distance from the site (over 60 m) and the small scale of the development.
Mapped priority habitats	County	Habitats of importance at the county level.	No impacts are anticipated. Although broadleaved deciduous woodland is mapped adjacent to the south-western boundary, no groundworks are proposed in close proximity to this boundary.
Ancient woodland	National	Irreplaceable habitat.	No impacts are anticipated due to the distance from the site (over 100 m) and the small scale of the development.
Bramble scrub	Site	Widespread and common habitat.	It is considered that the loss of a small area of scrub would not have a significant biodiversity impact. However, see potential impacts on nesting birds, amphibians, and reptiles.
Broadleaved and mixed woodland	Site	A small area of common habitat which has been managed within a garden environment for many years.	Loss of a small area of woodland would reduce the biodiversity value of the site.
Developed land; sealed surface	Negligible	No ecological value.	No biodiversity impacts.
Modified grassland	Site	Widespread and common habitat.	It is considered that the loss of a small area of modified grassland would not have a significant biodiversity impact.
Bats (roosting)	Unknown	One tree (TN1) assessed to have suitability (PRF-L) for roosting bats. Trees within woodland to the north of the site may also contain roosting potential.	Tree with roosting potential (TN1) proposed to be retained. Potential for damage to retained tree (TN1) during works. Artificial light spill upon the retained woodland greater than 0.5 lux or current baseline light levels could impact roosting bats if present.
Birds	Site	Small area of suitable foraging and nesting habitat.	Damage/destruction of active nests if trees and scrub are removed during the nesting season (which is typically March until the end of August).

Ecological Feature	Value	Justification for Value	Potential Impacts Without Mitigation
[redacted]			
Hazel dormouse	Unknown	The extent of use of the site is unknown as surveys have not been undertaken. The small, sub-optimal woodland areas provided some suitability for dispersal.	Loss of a small area of woodland is considered unlikely to have a significant impact on the local hazel dormouse population, with extensive and more suitable habitat present in the vicinity of the site. Removal of the woodland area could lead to killing or injury of dormice, if present during works. Disturbance of dormice due to artificial light spill on retained woodland.
Otter	Site	Otter unlikely to be present on-site, although could potentially disperse through site.	Injury/death during construction.
Other mammals	Site	Small area of habitat for hedgehog and polecat.	Loss of a small area of suitable habitat is considered unlikely to have a significant impact on the local populations. Further and more extensive suitable habitat in the local landscape. Injury/death during site clearance and construction.
Amphibians	Site	Small area of suitable terrestrial habitat on the site.	Loss of a small area of suitable terrestrial habitat is considered unlikely to have a significant impact on local amphibian populations. Further and more extensive suitable habitat in the local landscape. No impacts on great crested newts are considered likely. Injury/death during site clearance and construction.

Ecological Feature	Value	Justification for Value	Potential Impacts Without Mitigation
Reptiles	Site	Small area of suitable habitat on the site.	Loss of a small area of suitable habitat is considered unlikely to have a significant impact on local reptile populations. Further and more extensive suitable habitat in the local landscape.
			Injury/death during site clearance and construction.
Invertebrates	Site	Small area of suitable habitat on the site, likely to be used by common and widespread species.	No significant impacts are anticipated. Further and more extensive suitable habitat in the local landscape.
Invasive non-native species	Site	Variegated yellow archangel present.	If any construction works will impact the area of variegated yellow archangel this could lead to further spread across the site.

6 Surveys, Mitigation and Enhancements

6.1 Surveys

6.1.1 No further surveys are considered necessary provided that the mitigation detailed in Section 6.2 is implemented.

6.1.2 Although bats originating from the Wye Valley and Forest of Dean Bat SAC may use the site for foraging and commuting it is not considered necessary to undertake bat activity surveys to ascertain the level of activity on the site as the mitigation proposed in Section 6.2 would ensure that there are no significant impacts upon bats.

6.2 Mitigation

6.2.1 The following mitigation must be implemented to avoid impacts on habitats and species.

River Wye SAC/SSSI/LWS and Fish

6.2.2 To ensure that there are no impacts upon the River Wye it is understood that a detailed drainage strategy is being prepared to ensure that there are no foul water or surface water flows to the River Wye. Sustainable urban drainage (SUDs) is proposed with a rainwater storage tank, a sewage treatment plant and reed bed system. A habitat pond is proposed for surface water drainage and clean water discharge from the treatment plant which will overflow to a soakaway.

Wye Valley and Forest of Dean Bat Sac & Bats

6.2.3 Artificial light spill upon the woodland greater than 0.5 lux or current baseline levels must be avoided.

6.2.4 To avoid artificial light spill, no external lighting is proposed and it is proposed to use electrochromic glass or blinds integrated into the windows which work on sensors to close at night to ensure that there is no light spill from internal lighting at night. This will need to be secured by a planning condition, section 106 agreement or similar to ensure that it is a permanent measure.

6.2.5 Protect tree with bat roosting potential (TN1) as detailed within the arboricultrual report (Ross, 2023).

Broadleaved and Mixed Woodland

6.2.6 Loss of a small area of woodland must be compensated for by planting native shrub and tree species, and management of the retained area of woodland should be carried out to enhance the value of the habitat for wildlife. It is recommended that a planting scheme and management plan is secured by a planning condition.

6.2.7 Any retained trees located close to construction works must be protected as detailed within the arboricultural report (Ross, 2023).

Birds

6.2.8 Removal of trees, shrubs and scrub must either be undertaken outside of the nesting season (which is generally March until the end of August), or these must be checked for active nests by an ecologist immediately before removal. If active nests are then found these must be left undisturbed until the young have fledged.

Hazel Dormouse

6.2.9 Implement reasonable avoidance measures (RAMs) during site clearance and construction to minimise the risk of injury or death to hazel dormice. Suitable RAMS are provided in Appendix 4.

6.2.10 To avoid artificial light spill onto areas of retained woodland no external lighting is proposed and it is proposed to use electrochromic glass to ensure that there is no light spill from internal lighting at night. This will need to be secured by a planning condition, section 106 agreement or similar to ensure that it is a permanent measure.

Badger, Otter and Other Mammals

6.2.11 Implement RAMs during site clearance and construction to minimise the risk of injury or death to mammals. Suitable RAMS are provided in Appendix 4.

Amphibians and Reptiles

6.2.12 Implement RAMs during site clearance and construction to minimise the risk of injury or death to mammals. Suitable RAMS are provided in Appendix 4.

Invasive Non-native Species

6.2.13 If any construction works will take place in proximity to the area of variegated yellow archangel, then this must be eradicated prior to works starting by mechanical means or chemical control. The removed vegetation is considered controlled waste and must be disposed of appropriately.

6.3 Biodiversity Enhancements

6.3.1 Under the Environment Act 2021, all new planning applications (other than small sites[1]) must provide at least 10 % biodiversity net gain (BNG) from February 2024. BNG will be required for small sites from April 2024. BNG will be measured using Defra's biodiversity metric. As this site is a small site a BNG metric is not required unless planning is submitted after 2nd April 2024. However, in line with the NPPF and local planning policy, biodiversity enhancements are proposed to be included in the design; see Table 6-1 for a summary of these and the Site Layout Plan (Appendix 1) for their locations.

[1] Small sites are defined for the purpose of the BNG exemption as:
(i) For residential: where the number of dwellings to be provided is between one and nine inclusive on a site having an area of less than one hectare, or where the number of dwellings to be provided is not known, a site area of less than 0.5 hectares.
(ii) For non-residential: where the floor space to be created is less than 1,000 square metres OR where the site area is less than one hectare.

Table 6-1: Proposed biodiversity enhancements

Enhancement	Details
Provision of bat boxes	One cavity integrated eco bat box and one crevice integrated eco bat box will be installed under the eaves on the south-west elevation of the proposed building.
Pollination garden	It is proposed to plant several areas of pollination garden to attract insects. Proposed planting includes lavender, foxgloves, scabious, marjoram and cosmos. Further suitable planting for pollinators can be found here: https://www.rhs.org.uk/science/pdf/conservation-and-biodiversity/wildlife/plants-for-pollinators-garden-plants.pdf
Insect hotel	A gabion retaining wall will be created as an insect hotel with stones, old bricks, tiles, bamboo, pipe etc.
Pond	The proposed pond is for surface water discharge and clean water discharge from the treatment plant which will overflow to a soakaway. This can be designed for wildlife creating a pond with various shelves, shallow graded sides, and convoluted edges. A suitable species -rich meadow mix could be planted around the pond. See Appendix 5 for a suitable wildlife pond design.
Green roofs	Green roofs are proposed across the site. To ensure that these are suitable for wildlife such as invertebrates it is recommended that the site appropriate recommendations provided by Buglife are followed: https://cdn.buglife.org.uk/2019/07/Creating-Green-Roofs-for-Invertebrates_Best-practice-guidance.pdf

7 Conclusions

7.1.1 It is proposed to erect a residential property on the site. The footprint of the proposed property is approximately 162 m^2. A turning area, pollination garden and pond with raised decking are also proposed and it is also understood that the small area of woodland (approximately 70 m^2) to the west of the garden path would be removed to facilitate the construction works. The proposed development would result in the loss of approximately:

- 25 m^2 of the northern area of woodland, this area is very sparse and this equates to two to three coppice stools.
- 45 m^2 of bramble scrub.
- 60 m^2 of sparsely vegetated ground beneath scattered trees in the southern woodland area.
- Six trees (a dead rowan, Japanese maple, silver fir and three goat willows).
- 22 m^2 of modified grassland and additional small areas for the pollination garden areas.

7.1.2 According to the arboricultural report it is also proposed to remove one sycamore in poor condition, although this is not needed to facilitate the development.

7.1.3 It is understood that a detailed drainage strategy is being prepared to ensure that there will be no outflow to the River Wye. It is considered that the proposed development would not have any significant impacts on any other statutory or non-statutory designated sites, ecologically important or protected habitats or protected or notable species if the mitigation measures provided in this report are implemented.

7.1.4 A summary of potential impacts which could arise from the proposed development and details of mitigation are provided in Table 7-1.

Table 7-1: Summary of potential impacts and mitigation

Ecological Feature	**Potential Impacts without Mitigation** (refer to Section 5)	**Required Mitigation** (refer to Section 6.2)
River Wye SAC/SSSI/ LWS and Fish	Any pollution from drainage from the site could impact the River Wye.	A detailed drainage strategy is being prepared to ensure there are no foul or surface water flows to the River Wye.
Wye Valley and Forest of Dean Bat SAC / Bats	Artificial light spill upon the retained woodland areas or the woodland adjacent to the site greater than 0.5 lux or current baseline light levels could impact foraging and commuting bats, originating from the SAC and roosting bats if present. Potential for damage to retained tree with roosting suitability (TN1) during works.	No external lighting is proposed. Use of electrochromic glass on all glazing or integrated sensor blinds is proposed. This will need to be secured as a permanent measure. Protect retained trees during works.
Broadleaved and mixed woodland	Loss of a small area of woodland would reduce the biodiversity value of the site.	Protect retained trees during works. Implement a planting scheme and management plan to provide compensatory native shrub and tree planting and measures to enhance the retained woodland area.

Ecological Feature	Potential Impacts without Mitigation (refer to Section 5)	Required Mitigation (refer to Section 6.2)
Birds	Damage/destruction of active nests if trees/shrubs and scrub are removed, during the nesting season (which is typically March until the end of August	Removal of trees/shrubs and scrub must be undertaken outside of the nesting season (, or these must be checked for active nests by an ecologist immediately before removal. If active nests were present these would have to be left undisturbed until the young had fledged.
Hazel dormouse	Removal of the woodland area could kill or injure dormice, if present. Disturbance of dormice due to artificial light spill on retained woodland.	Implement RAMs during site clearance and construction to avoid injury/death (see Appendix 4). No external lighting is proposed. Use of electrochromic glass on all glazing or integrated sensor blinds is proposed. This will need to be secured as a permanent measure.
Badgers, otters and other mammals	Injury/death during site clearance and construction.	Implement RAMs during site clearance and construction to avoid injury/death (see Appendix 4).
Amphibians and reptiles	Injury/death during site clearance and construction.	Implement RAMs during site clearance and construction to avoid injury/death (see Appendix 4).
Invasive non-native species	If any construction works will impact the area of variegated yellow archangel this could lead to further spread across the site.	If any construction works will impact the area of variegated yellow archangel, then remove prior to works.

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9 Figures

Figure 1 – Site Location Map

Figure 2 – UK Habitat Classification Plan

Figure 3 – Waterbody Location Map

Appendix 1 – Site Layout Plan

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Appendix 2 – Target Notes

Number	Description	Photographs
TN1	Deodar cedar with PRF-L for roosting bats.	
TN2	Rabbit droppings.	No photo.
TN3	Deer droppings.	
TN4	Variegated yellow archangel.	No photo

Appendix 3 – Ground Level Tree Assessments

Tree	Suitability	Feature	Photo
TN1 – Deodar Oak	PRF-L	Overlapping stems which provide limited shelter only.	

Appendix 4 – Reasonable Avoidance Measures

To minimise the risk of injury or death to mammals, amphibians and reptiles during site clearance and construction the following Reasonable Avoidance Measures (RAMs) must be followed. A suitably qualified ecologist must supervise clearance of the woodland area.

Site Induction

Before clearance works begin, an ecologist must meet contractors and provide a site induction. This talk will provide information on mammals, great crested newts and other amphibians and reptiles, including their legal protection, identification, where they could be found on the site, what to do if mammals, amphibians or reptiles are found during works, and an explanation of these RAMs and the importance of adhering to them.

Identification guides for great crested newts are provided at the end of these RAMs and must be printed out and displayed for all contractors to see.

Site Clearance

Clearance of the woodland area must be supervised by a suitably qualified ecologist. Prior to any clearance an ecologist with a Natural England dormouse licence will undertake a fingertip search of the area to be cleared to ensure that there are no dormice present.

Any small mammals, amphibians, and reptiles found during site clearance and works must be carefully moved outside of the works area using gloved hands or a suitable container.

If a great crested newt is found at any time during works, then work must stop immediately and the ecologist will provide further advice. If an ecologist is not present then an ecologist must be immediately contacted. A guide to newt identification is provided at the end of these RAMs.

Timing

Scrub, shrubs and trees that require removal must be cut to stumps during the dormouse hibernation period (November to March inclusive), if cutting is to take place in March they must be checked for active bird nests by an ecologist immediately before removal; if active nests were then found then these would have to be left undisturbed until the young had fledged.

Clearance of ground features (scrub, shrub and tree stumps and roots) and refugia (i.e. stone piles, paving slabs) must be undertaken during the dormouse, amphibian and reptile active season (i.e. April to September inclusive) and in suitable weather (i.e. temperature between 9°C and 18°C, calm, and no precipitation) to ensure that animals are active and can readily move away from work areas. All works must take place only during daylight hours.

Table A4-1: Clearance timings (blue shading shows when tasks must be carried out)

Task	J	F	M	A	M	J	J	A	S	O	N	D
Felling scrub, trees and shrubs to stumps			Check for bird nests									
Clearance of ground features (e.g. scrub, shrub and tree stumps and roots and refugia)												

Vegetation Cut

Any potential refugia (i.e. stones, paving slabs) must be carefully removed by hand.

Clearance of scrub must be undertaken using the following phased approach. Vegetation must be strimmed or brush cut and all cuttings raked and removed from the clearance area on the same day.

- Day 1 – cut vegetation to a height of 150 mm
- Day 2 – cut vegetation to a height of 75 mm
- Day 3 – cut vegetation to a height of 30 mm

Cutting must start from the centre towards the site boundaries to encourage any animals present to move out of the development area into surrounding habitats. After the vegetation has been cut it must be kept short to deter animals from re-entering the area.

Soil Strip

Once vegetation has been cut it must be left at least 24 hours before any necessary removal of roots and topsoil.

Roots and soil must be carefully excavated where necessary, by hand or using an excavator with a toothed bucket. Use of a larger bucket is optimal as this will require fewer scrapes and therefore reduces the risk of injury to amphibians and reptiles.

Construction

During construction, any building material must be stored on pallets or hardstanding to deter mammals, amphibians and reptiles from sheltering underneath. All waste must be stored in skips or containers and not in piles on the ground.

All excavations must be covered overnight, or a ramp installed with an angle no steeper than 40 degrees, to enable animals to escape. Any pipework must be capped overnight. Excavations must be checked every morning to ensure there are no trapped animals; any animals present must be left to escape by their own volition (badgers), or carefully moved outside of the works area by gloved hand or using a suitable container (other mammals, amphibians and reptiles). **However, if a great crested newt is found then work must stop immediately, and an ecologist contacted.**

Newt Identification Guide (source: Amphibian and Reptile Conservation Trust)

Smooth newt

Grows to about 10 cm. Both sexes have orange or yellow belly stripe, with rounded black spots. Male has undulating crest running from head to tail tip.

A widespread species which breeds in a variety of water bodies. Often found in garden ponds.

After the 'tadpole' stage, young newts live on land. Most likely to be found from late summer to autumn as they disperse from ponds.

Palmate newt

Grows to 9 cm. Breeding male has ridge running along back, rather than a crest. Dark, webbed hind feet, and tail ends in filament.

There are two pale coloured nodules on the underside of the hind feet of female palmate newts.

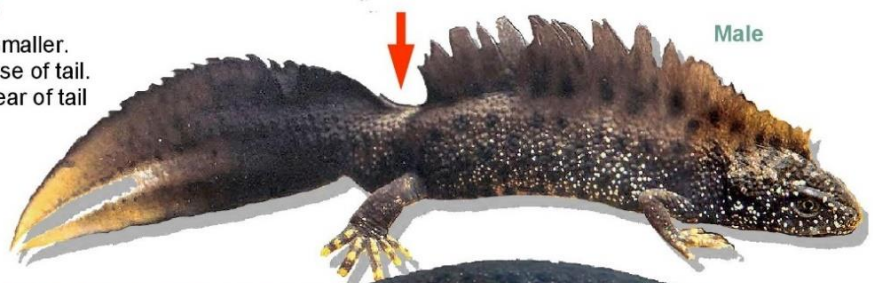
Female looks similar to smooth newt.

Throat of palmate newt has no pigment (looks pink). Throat of smooth newt is off-white and usually spotted.

Great crested newt

Grows to 16 cm, but usually smaller. Crest in male has break at base of tail. Silvery-white stripe towards rear of tail conspicuous.

Both sexes have rough, granular skins and yellow/ orange bellies with irregular black spots.



Juveniles look like smaller versions of the female and may live on land or in the water.

Strictly protected species, requiring a licence to handle or disturb.

Appendix 5 – Wildlife Pond Design

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