

Hudson Heights, Wynnstay Lane,

Marford

Ecological Appraisal

2024



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Client ████████████████████

Project Title Hudson Heights, Wynnstay Lane, Marford

Project Reference RHE.4045

Project Leader Kate Reed

Contact Details Kate@rachelhackingecology.co.uk

	Name	Position	Date
Author	Sam Adshead	Junior Ecologist	23/01/2024
Reviewer	Kate Reed	Senior Ecologist	31/01/2024
Revision A	Kate Reed	Senior Ecologist	31/01/2024



RACHEL
HACKING
ECOLOGY

The Stables
Paradise Wharf
Ducie Street
Manchester
M1 2JN

0161 465 8971

www.rachelhackingecology.co.uk

mail@rachelhackingecology.co.uk



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Report Contents

Executive Summary	3
1. Introduction	4
2. Methods	6
3. Results	8
4. Assessment	19
5. Recommendations	21
Appendix 1: Planning Policy & Legislation	22
Appendix 2: Phase 1 Habitat Survey	
Appendix 3: Proposed Plans	



Executive Summary

Development Details

The client is proposing residential development at Hudson Heights, Wynnstay Lane, Marford, hereafter referred to as the 'site'. This report describes the ecological features of the site and its surroundings and assesses the potential impacts of the development on the ecological interest. Recommendations are provided so that the development is compliant with biodiversity policy and legislation.

Ecological Interest

The site has a low level of ecological interest. Features include suitable foraging habitat for bats, suitable nesting habitat for birds, scattered trees and it is located within 1km of two Sites of Special Scientific Interest.

Outcomes

No further survey work is required. Mitigation measures and enhancement opportunities are identified to ensure the proposed development complies with planning policy requirements.



1. Introduction

1.1 Project Brief

- 1.1.1 Rachel Hacking Ecology Limited was commissioned in 2023 by [REDACTED] to carry out an Ecological Appraisal of Hudson Heights, Wynnstay Lane, Marford, Wexham (O.S. grid reference: SJ 36272 54725 – see Figure 1).

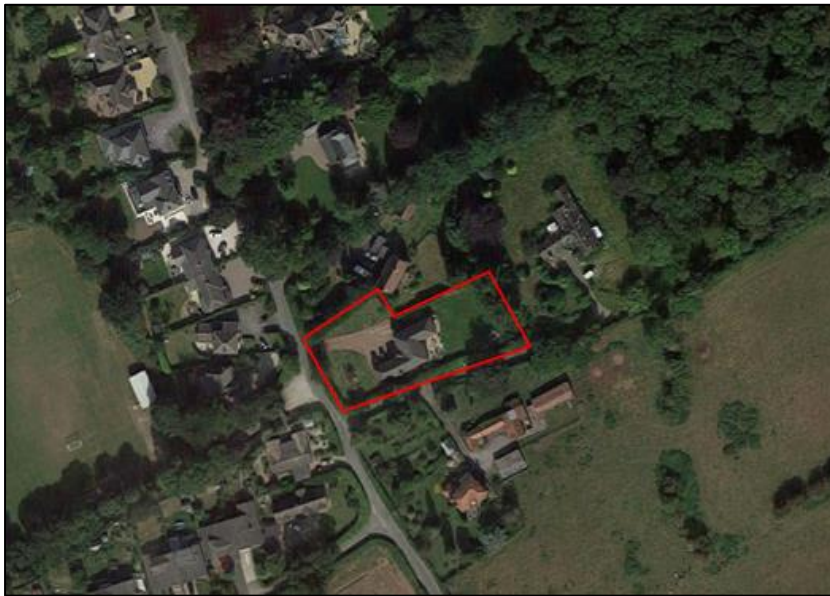


Figure 1. Map showing the location of the site courtesy of © Google Maps

- 1.1.2 The proposed development site comprises a residential property and garden, consisting of introduced shrub/scrub, amenity grassland, a vegetable patch, hedgerows, individual trees, tall ruderal and ephemeral habitat. The site is located on the rural-suburban fringe at the southern edge of Gresford, 2.6km northwest of Wrexham and surrounded by woodland to the northeast and a rural landscape (farmland) to the south.

Description of Development

- 1.1.3 The site will be the subject of a planning application for partial clearance of the garden and the construction of extensions on the southwestern and northeastern elevations. The interior of the property will also be renovated.

Relevant Planning History

- 1.1.4 No previous relevant planning history or surveys undertaken.

1.2 Scope of Work

- 1.2.1 The Client commissioned Rachel Hacking Ecology to carry out the following works:
- Desk-based study to obtain details of designated sites within a specified search area.
 - Record the extent, type, and condition of habitats within and next to the site.
 - Undertake a daytime bat survey conducting an internal and external assessment on the affected building.
 - Search for signs of protected species and assessment of the potential of habitats and features to support protected and notable species.
 - Survey for invasive non-native species on the site.
 - Assess any impacts of the proposed development on ecological receptors.

1.3 Site Visit Information

Surveyor Details

- 1.3.1 Kate Reed (Senior Ecologist) and Mark Ashon (Junior Ecologist) visited the site on 16th January 2024. Kate has over 6 years' experience undertaking similar surveys and holds a level two survey licence for bats (licence number: 2022-10920-CL18-BAT).

Site Conditions

- 1.3.2 The weather at the time of the survey was cold, partially overcast, with a slight breeze. The temperature was 4°C. The Conditions were suitable enough for a full assessment to be undertaken.



2. Methods

2.1 Desk Study

- 2.1.1 The Magic website (Multi-Agency Geographical Information for the Countryside) was interrogated for the presence of Statutory Designated Sites (and European Protected Species licences) within 2km radius of the site.
- 2.1.2 The Impact Risk Zones for any SSSI within 5km of the site was checked to determine whether the Local Planning Authority will need to consult with Natural England.
- 2.1.3 The locations of non-statutory designated sites were identified using local planning policy maps.

2.2 Field Survey

Extended Phase 1 Habitat Survey

- 2.2.1 In accordance with JNCC guidelines¹ the site was walked over and the habitats and features of ecological interest were mapped and described. Habitats and features of particular interest were target noted.
- 2.2.2 During the walkover habitat and features were assessed for their suitability to support of protected and notable species in accordance with CIEEM guidelines². Field signs of protected, notable, and invasive non-native species, if encountered, were mapped, and described.

Daytime Bat Survey

- 2.2.3 The exterior of the site was surveyed from the ground using binoculars and a high-powered torch. Features offering potential access to roosting bats were recorded. Such features may include suitable gaps in roof coverings, gaps behind external cladding/facia and gaps in masonry.
- 2.2.4 Although unlikely due to it being winter at the time of this survey, evidence indicating the presence of roosting bats was also searched for. This may include bat droppings on walls, windows or on the ground below roost entrances.
- 2.2.5 The interior of the site, including the roof void, was surveyed to identify any evidence indicating use by

¹ JNCC (2010). *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*. Joint Nature Conservation Committee, Peterborough

² CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal*. Chartered Institute of Ecology and Environmental Management, Winchester.

roosting bats. Such evidence may include bat droppings, feeding remains, urine splashes, live or dead bats and staining from fur oil on timbers.

- 2.2.6 Trees on the site were given a ground-level assessment, searching for Potential Roosting Features (PRFs), such as flaking bark, woodpecker holes, knot holes and limb splits.

2.3 Mitigation Hierarchy

- 2.3.1 Mitigation measures should be embedded within the masterplan design and planning application process. Measures during the construction phases should be included in a Construction Environmental Management Plan: Biodiversity (CEMP). This process from proposal to implementation needs to consider the 'mitigation hierarchy' of avoid, reduce, compensate, and enhance:

- Aim to avoid negative effects through the design process.
- Mitigate if negative effects cannot be avoided.
- Use compensation measures to offset residual impacts.
- Identify and implement opportunities to enhance biodiversity.



3. Results

3.1 Survey Constraints

3.1.1 Field survey results are valid for a limited duration and no investigation can provide a complete description and characterisation of a site. The composition of habitats and species can change depending on environmental variables and the mobility of species, so the results of a study become less reliable over time. In some cases, surveys that are 3 years old may be acceptable for a project assuming that habitats have not significantly changed in the intervening period, but for protected species it is likely that survey data will need to be no more than 18 months old.

3.1.2 Table 1 describes the survey limitations and how these were mitigated.

Table 1. Survey Constraints and Mitigated Response.	
Constraints	Mitigated Response
The survey was conducted at a suboptimal time of year for botanical work.	The habitat types present on the site allowed a full assessment to be undertaken at this time.

3.2 Designated Sites

3.2.1 The desk study provided information on the designated sites listed below in Table 1.

Table 1. Designated Sites			
Name	Status	Location/distance	Interest
Vicarage Moss	Site of Special Scientific Interest (SSSI)	0.8km North-west of the site	Biology
Marford Quarry	SSSI	0.5km South-west of the site	Mixed, Inverts
	RAMSAR: Midland Meres and Mosses Phase 2		Nutrient-rich open water bodies (meres) with fringing habitats of reed swamp, fen, carr and damp pasture, and peatlands.

- 3.2.2 The desk study identified that the site was located within the Impact Risk Zone of two SSSI's, The River Dee SSSI and the Dee Cliffs Farndon SSSI, lying approximately 3.4km and 5.1km to the east of the site respectively. The proposed development is of a small scale and is not considered a likely risk at the site location and therefore the proposed development, this will not require the Local Planning Authority to consult with Natural England.

3.3 Habitats

- 3.3.1 The phase 1 habitat survey map is contained in Appendix 2.

Amenity Grassland

- 3.3.2 Most than half of the site consists of closely mown amenity grassland (see Photograph 1). Dominant species are Perennial Rye Grass *Lolium perenne*, Annual Meadow Grass *Poa annua*, Red Fescue *Festuca rubra* and Yorkshire Fog *Holcus lanatus*. Other herbaceous species presenting less frequently are Creeping Buttercup *Ranunculus repens*, Cocks Foot *Dactylis glomerata*, Fox-and-cubs *Pilosella aurantiaca*, Common Sorrel *Rumex acetosa* and Common Ragwort *Senecio jacobaea*.



Photograph 1 showing the amenity grassland on site

Introduced Shrub/Continuous Scrub Mosaic

- 3.3.3 Introduced shrub beds exist along the northeastern and southern boundaries, Bramble scrub and other opportunistic species are well established within these habitats, so they have been mapped as a mosaic of the two habitats (see Photograph 2). The habitat is dominated by Bramble *Rubus fruticosus* agg, Bracken *Pteridium aquilinum* and Cherry Laurel *Prunus laurocerasus*. Other species include Ivy

Hedera helix, Dogrose *Rosa canina*, Holly *Ilex aquifolium*, Ash *Fraxinus excelsior* and Birch *Betula pendula*.



Photograph 2 showing the introduced shrub/scrub mosaic at the south of the site

Vegetable Patch (Arable)

- 3.3.4 Four small beds, exist in the amenity grassland towards the southwest of the site (see Photograph 3). The are currently unplanted supporting bare earth with a small number of opportunistic species that have established include Hairy Bitter-cress *Cardamine hirsuta* and Swine-cress *Lepidium coronopus*.



Photograph 3 showing the vegetable patches

Buildings and Bare Ground

- 3.3.5 One large dwelling is present on site.
- 3.3.6 The bare ground on site is mostly gravel pathways (see Photograph 4) but includes a section of flagstones.
- 3.3.7 Sparse presence of ephemeral vegetation exists on the sites bare ground. Species included Common Ragwort and Cleavers *Galium aparine*,



Photograph 4 showing the gravel pathway on site

Tall Ruderal

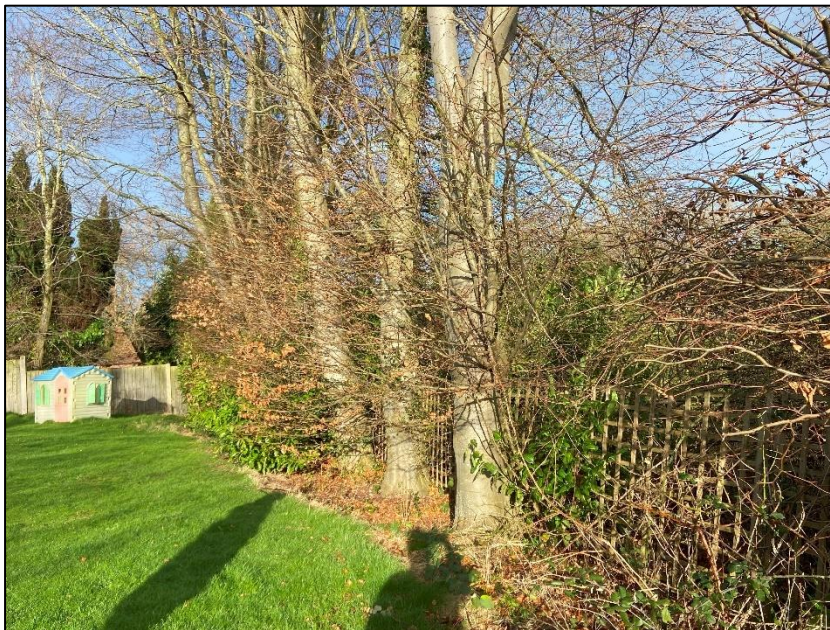
- 3.3.8 Two small areas of tall ruderal habitat exist at the southeastern corner of the site (see Photograph 5). The dominant species included Common Nettle *Urtica dioica*, Spear Thistle *Cirsium vulgare* and Bramble. Other species include Cleavers and Lesser Burdock *Arctium minus*.



Photograph 5 showing the tall ruderal habitat

Individual Trees

- 3.3.9 Individual trees are located throughout the site. A line of Beech *Fagus sylvatica* exists along the eastern boundary of the site (see Photograph 6). Scattered trees include, Silver Birch *Betula pendula*, Holly and Cherry *Prunus* sp.



Photograph 6 showing the line of Beech trees on site

Hedgerows

- 3.3.10 Three hedgerows exist on site (see Photograph 7).

- 3.3.11 Hedgerow 1 is native and situated at the southwestern side of the site close to the front of the property. Species consist of Blackthorn *Prunus spinosa*, Bramble, Ivy, Yorkshire Fog, Common Nettle and Wood Avens *Geum urbanum*.
- 3.3.12 Hedgerow 2 is non-native and is located at the northernmost point of the site and consists solely of Cherry Laurel *Prunus laurocerasus*.
- 3.3.13 Hedgerow 3 has a mixed composition and is adjacent to the southern elevation of the building and extends towards the front of the site. The majority of the hedgerow species are native and consist of Blackthorn, Hazel *Corylus avellana*, Elder *Sambucus nigra*, Dogrose and Holly. Cherry Laurel and Garden privet *Ligustrum ovalifolium* was also present within the Hedgerow.



Photograph 7 showing hedgerow 3

3.4 Species

Badger

- 3.4.1 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Bats – External Survey

- 3.4.2 The building on site is a two-storey structure with a single-storey garage on the western elevation. The external masonry is in excellent condition and the uPVC window and door frames are well-sealed within the masonry (see Photograph 8).



Photograph 8 showing the southeastern elevation of the building

- 3.4.3 The property has a multi-hipped roof consisting of clay ridge tiles is in good condition. One slipped tile is present on the southern elevation, all other roof and ridge tiles are in position with very minimal gaps underneath the tiles (see Photograph 9). Moss growth is present on many of the tiles further sealing the structure.



Photograph 9 showing the slipped tile

- 3.4.4 The end ridge tile on the northwest elevation of the garage has a cavity extending up through the roof between the lining and tiles (see Photograph 10), offering potential roosting features for crevice dwelling bats.



Photograph 10 showing the cavity in the garage roof

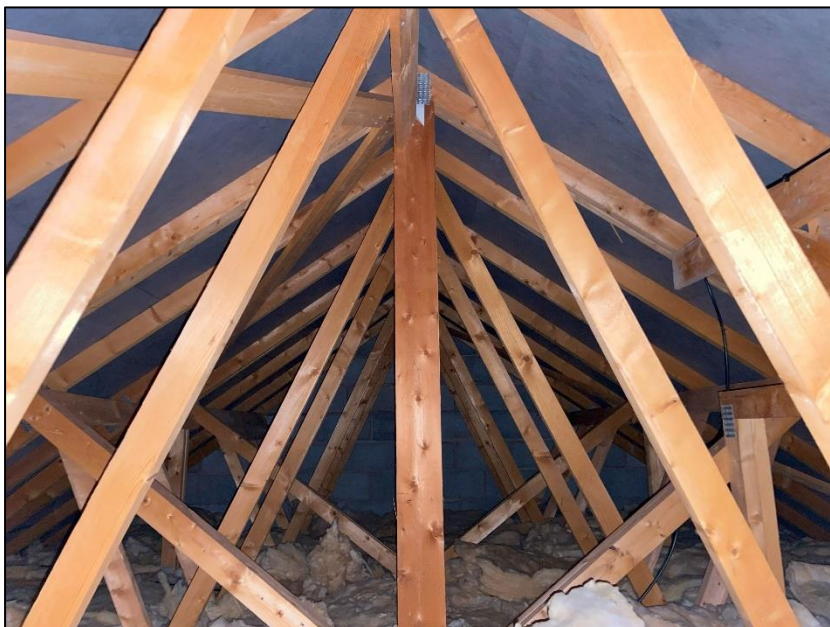
- 3.4.5 The soffit and bargeboards are comprised of uPVC and are in excellent condition and well-sealed with the building's brickwork (see Photograph 11).



Photograph 11 showing uPVC soffit boards

Bats – Internal Survey

- 3.4.6 The main roof void of the building is in excellent condition and includes fibreglass insulation along the floor. The roof is lined with breathable roof lining. No evidence of bat activity in the form of droppings or insect remains were found. The roof timbers and internal brickwork are in good condition and offer no potential roosting features for bats (see Photograph 12).



Photograph 12 showing the roof void, timbers and internal brickwork

- 3.4.7 The interior of the garage is in good condition and is used regularly. No roof void is present (see Photograph 13). The support timbers and felt lining the underside of the roof are in good condition. No evidence of bat activity was found within the garage.



Photograph 13 showing the interior of the garage

Bats - Trees

- 3.4.8 Some of the Beech trees lining the eastern side of the property displayed minor/small cavities in their trunks (see Photograph 14). However, the cavities were either no more than 1.5m from the ground and appeared shallow and therefore are of limited value for roosting bat.

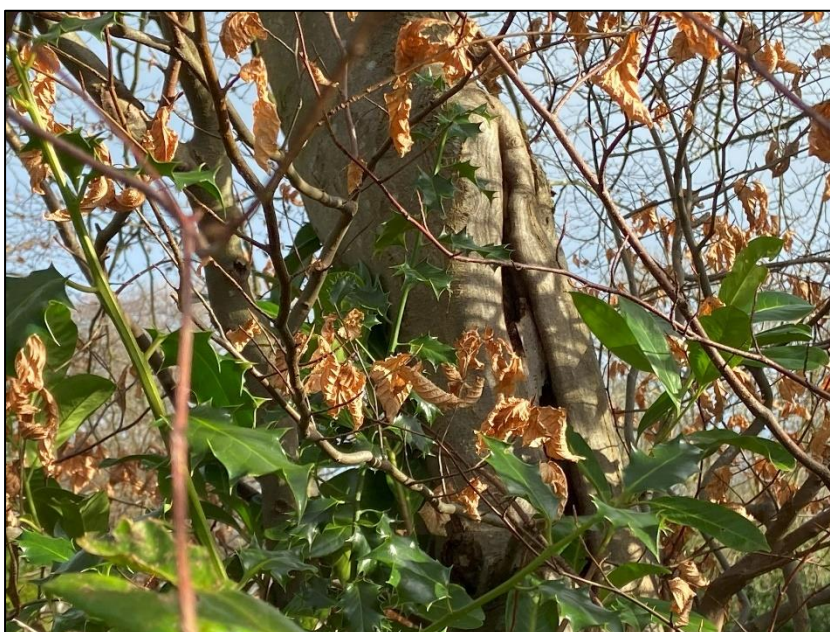


Figure 16 showing a trunk cavity in one of the beech trees

Great Crested Newt

- 3.4.9 No ponds exist on, or within 250m of the site.
- 3.4.10 The site supports limited suitable terrestrial habitat for Great Crested Newt *Triturus cristatus*,
- 3.4.11 Due to the lack of suitable breeding habitat in the locality it is unlikely that Great Crested Newt occurs on site and is not considered further in this report.

Nesting Birds

- 3.4.12 The trees introduced shrub/scrub and hedgerows on site offer suitable nesting habitat for birds.

Invasive Species

- 3.4.13 No invasive species listed within the Wildlife and Countryside Act (Section 14 and Part II of Schedule 9).



4. Assessment

4.1 Development Context

The following assessment assumes there will be an extension to the existing property on the site effecting the east and west facing sections of the dwelling and the site access will be updated as per the BR Architecture drawing (BR-2023-ROBERTS-PL01).

4.2 Impacts on Designated Sites

- 4.2.1 Although the site is within a kilometre of Vicarage Moss and Marford Quarry SSSI's, the development is small and limited to an extension of the existing building. There is no clear habitat connectivity between both SSSI's and the development site.
- 4.2.2 The site does fall within the SSSI impact risk zone of Dee Cliffs Farndon and the River Dee, but due to the development type (an extension to an existing property) and small-scale nature of the development it is unlikely to have any effect on nearby SSSI.

4.3 Impacts on Habitats

- 4.3.1 The habitats likely to be lost because of development include amenity grassland and a medium sized Cherry tree that is based at the front of the property. It is anticipated a small section of the hedgerow at the site entrance may also be lost. The extension will impact on the existing building the southern elevation is likely to be disturbed or partially removed.

4.4 Impacts on Species

Bats

- 4.4.1 No evidence of bat activity was found on site during the survey and the site is assessed as negligible for supporting roosting bats. The few potential access points recorded on the building will not be lost as a result of the proposed extension and renovation works. The main roof void will not be impacted by the proposed extension and the roof void above the garage will be enclosed as a part of the proposed works.
- 4.4.2 The only tree proposed to be felled as a part of the scheme is the Cherry *Prunus* sp. at the site entrance as this tree is not considered to support at PRFs there will be no loss of potential roosting opportunities on the site.



- 4.4.3 The site is located within the suburban-rural fringe with suitable foraging habitat located on and adjacent to the site. The proposed vegetation removal as a part of the scheme is likely to impact bats at a site level only due to the other suitable foraging habitats in the locality. The proposed development may result in changes in light levels to the site, which could indirectly impact foraging bats.

Birds

- 4.4.4 No evidence of nesting birds was found on the site, however their presence cannot be ruled out. Removal of vegetation has the potential to impact nesting birds, should these be present.

Invasive Species

- 4.4.5 No invasive, non-native species as listed on the Schedule 9 of the Wildlife & Countryside Act 1981 (as amended) was located on the site.



5. Recommendations

5.1 Further surveys

- 5.1.1 No further surveys will be required.

5.2 Mitigation Measures

Bats

- 5.2.1 Bat boxes should be installed on the building/new extension or suitable retained trees to enhance roosting opportunities on the site. Bat boxes should be installed at eaves level, on southeast to southwest facing elevations, but not directly above windows or doorways.
- 5.2.2 Any lighting should be sensitively designed to avoid illuminating boundary treelines to ensure the site continuous to provide bat foraging habitat during the post development.

Nesting Birds

- 5.2.3 Impacts on nesting birds should be avoided, in particular, by carrying out site clearance and similar operations outside of the bird breeding season (which is March - August). Construction activities that might directly impact upon breeding birds should hence be limited to the September-February period. If vegetation has to be cleared during the bird breeding season checks immediately before clearance by a suitably qualified ecologist will be required. If nesting activity is detected work in that area will need to stop until the ecologist considers that nesting activity is finished.

Appendix 1: Planning Policy & Legislation

National Policy

The National Planning Policy Framework (NPPF 2023) describes the Government's planning policy for England and how it should be applied. Within this framework, the requirements in relation to biodiversity are included within several policies. The two most relevant to individual planning decisions are Paragraphs 174 and 180, shown below:

- 174. Planning policies and decisions should contribute to and enhance the natural and local environment by:
 - a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
 - b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
 - c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
 - d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; etc...

- 180. When determining planning applications, local planning authorities should apply the following principles:
 - a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
 - b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
 - c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and



- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Legislation

The Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) includes the notification and confirmation of Sites of Special Scientific Interest (SSSIs). SSSIs can be notified for their floral, faunal, geological, or physiographical features. Protection against damaging operations and management of SSSIs is also included within the Act. Impact Risk Zones (IRZs) are zones around an SSSI account for the particular sensitivities of the features for which it is notified and identify development proposal which could have adverse impacts.

The Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) protects native animals, plants and habitats. Under the Act it is an offence to intentionally kill, injure or take any wild animal listed on Schedule 5 and it is an offence to interfere with places used for shelter or protection, or intentionally disturb animals occupying such places. The Act prohibits picking, uprooting or destroy any wild plant (or any attached seed or spore) listed in Schedule 8.

European Protected Species (EPS) such as bats, Hazel Dormouse, Otter, Natterjack Toad, Smooth Snake, Sand Lizard and Great Crested Newt are protected by the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and the Conservation of Habitats and Species Regulations 2017. The Acts make it an offence to:

- a) Deliberately capture, injure or kill an EPS;
- b) Deliberately impair an EPS's ability to survive, breed, reproduce, rear or nurture young; to hibernate or migrate; or significantly affect the local distribution or abundance of the EPS.
- c) Possess or control live or dead EPS or any part of, or anything derived from a EPS;
- d) Damage or destroy a breeding site or resting place of an EPS;
- e) Intentionally or recklessly obstruct access to any place that is used for shelter or protection by an EPS;
- f) Intentionally or recklessly disturb a structure or place that it uses for shelter or protection that is occupied by an EPS.

All common herptiles are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000). Grass Snake, Slow Worm, Common Lizard, Adder are protected against intentional killing or injury.



Common Frog, Common Toad, Smooth Newt and Palmate Newt is protected against sale. In addition, all British reptiles, Common toad and Great Crested Newt are listed as Species of Principal Importance.

All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended). It is an offence to intentionally kill, injure or take any wild bird or take, damage, or destroy its nest whilst in use or being built, or take or destroy its eggs. It is an offence to intentionally or recklessly disturb a species listed on Schedule 1 of the Act while they are nest building or at or near a nest with eggs or young, or to disturb the dependent young.

The Protection of Badgers Act 1992 makes it an offence to wilfully, or to attempt to kill, injure, take, possess or cruelly ill-treat a Badger, or intentionally or recklessly interfere with a sett. Interference of a sett includes disturbing badgers during occupation of a sett, or damaging or destroying a sett, or obstructing access to the sett.

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places a duty on every public authority to have regard to conserving biodiversity. Section 41 of the same Act requires the Secretary of State to publish a list of the living organisms and types of habitats that are of 'Principal Importance' for the purpose of conserving biodiversity. The Secretary of State must take steps, as appear reasonably practicable, to further the conservation of those living organisms and habitats in any list published under this section. The list of species and habitats of principal importance currently includes 943 species and 56 habitats. These are the species and habitats found in England which are regarded as conservation priorities under the UK Post-2010 Biodiversity Framework

The Hedgerows Regulations 1997 protect 'important' hedgerows from destruction or damage. A hedgerow is 'important' if it (a) has existed for 30 years or more; and (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations. Under the Regulations, it is against the law to remove or destroy 'important' hedgerows unless permitted by the local planning authority.

Appendix 2: Phase 1 Habitat Survey



Appendix 3: Proposed Plans

